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PAPER

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Wheelwright Paper Co. Answers Complaint

Carl E. Lincoln, General Manager of the Paper Company Replies to the Federal Trade Commission That the name "Italiano Handmade Vellum" Has Been Used with no Intention to Deceive But That Such Usage Has Been Common Practice in the Paper Industry for Many Years—Answer is of Unusual Interest

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 24, 1930—Carl E. Lincoln, general manager of the George W. Wheelwright Paper Company, has filed an answer with the Federal Trade Commission in connection with the formal complaint of that body against the use of the words "Italiano Handmade Vellum" on one of its products. The answer is of unusual interest because of the presentation made.

"In reply to your complaint," says Mr. Lincoln, "we wish to state that it is our desire and intention to act in every way according to the ethics and trade practices of the paper trade industry, but with out giving up the privileges of competing mills in the use of names or terminology of our product.

"We have no intention and never have had any intention of deceiving our customers or prospective customers in using misleading, deceptive or false terms in the naming of our products. If we have made an error in the respect of naming of our paper so that it is misleading, we have made the same error that has been the trade practice in the paper industry in the past 25 years or more.

"Answering the first point of complaint, namely that the representation that the product is Italiano indicates that the paper is Italian made, we wish to call your attention to the general trade practice as indicated by the following trade papers, none of which originate at the point that the name would indicate. Therefore, we claim that the name of a paper as is the trade practice in the paper industry does not by trade practice indicate the point of origin.

"English Bond—manufactured by Fox River Paper Company, Appleton, Wis.

"Louvain Book—manufactured by Reading Paper Company, Reading, Pa.

"Flemish Book—manufactured by Tileston & Hollingsworth, Mattapan, Mass.

"Gibraltar Cover—manufactured by Peninsular Paper Company, Ypsilanti, Mich.

"Geneva Onion Skin—Sold by Canfield Paper Company, New York City.

"Italian Pressed—manufactured by W. C. Hamilton & Son, Miquon, Pa.

"Fujiyama—(note this paper is watermarked and surface tinted in design in duplication of imported Japan paper.)

"Persian Bond—manufactured by American Writing Paper Company, Holyoke, Mass.

"Morocco Cover—manufactured by Knowlton Brothers, Watertown, N Y.

"Saxon Bond—manufactured by Strathmore Paper Company, Mittineague, Mass.

"Swiss Bond—manufactured in the United States and sold by the Canfield Paper Company, New York City.

"Linweave Oxford—manufactured by Kellogg Div. U. S. Envelope Company.

"Linweave Milano—manufactured by Kellogg Div. U. S. Envelope Company.

"Persina Oriental—manufactured by Carew Manufacturing Company, So. Hadley Falls, Mass.

"There are many other similar names and the use of these names and other names of a similar nature goes back for at least 25 years or more.

"Relative to the use of the word 'handmade.' We admit that in the combination of words it might be possible to interpret from this that our paper is made by hand. At the same time the word 'hand made' as used in combination with our name is very similar to the practices of the trades as indicated by

"American Handcraft made by American Writing Paper Company.

"Alexander Deckle Edge, Handmade Finish, Strathmore Paper Co.

"Further relative to this our labels, one of which appears on each package of paper, indicate that the Italiano Vellum is a handmade finish.

"In this instance the word 'handmade' refers to the type of finish on this paper as it is a finish that closely approximates the finish obtained on paper made by hand. We might also state that this paper has a deckle edge on two of its four sides which is also characteristic of a handmade paper. We agree with the complaint that the use of the word handmade in combination with the words Italiano Handmade Vellum can be misinterpreted but we have taken pains to protect the buyer in that we have labelled all of our paper, 'Italiano Vellum, Handmade Finish.' The words 'handmade Finish' is a well recognized term in the paper industry as can be readily seen if you refer to the Printing Paper Catalogue sent with this report Index Section, Page 9A under Alexander Japan.

(Continued on page 23)

U. S. Printer Wants 52,100,000 Pounds of Paper

Joint Congressional Committee Will Open Bids Monday, January 26 for Annual Supplies of Paper of All Varieties For the Year Beginning March 1, 1931—Bids Also Are Requested on 52,230,000 Envelopes—Awards To Be Made February 2

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 22, 1930.—Announcement was made on Monday that bids will be received on January 26 by the Joint Congressional Committee on Printing for the annual supply of paper envelopes for the use of the Government Printing Office. Awards will be made one week later.

The schedule embraces this year for paper, 182 lots and it is estimated that for the year beginning March 1 some 52,100,000 pounds will be used as compared with 54,300,000 pounds for the previous contract year.

The committee estimates that 52,230,000 envelopes will be used for the new fiscal year as compared with 39,057,000 for the present year.

Varieties and Quantities of Paper Wanted

Following are the quantities of paper on which bids will be received:

3,000,000 pounds news print paper.
9,810,000 pounds machine-finish book paper.
50,000 pounds antique book paper.
225,000 pounds light-weight machine-finish book paper.
700,000 pounds 50 per cent rag machine-finish book paper.
80,000 pounds 100 per cent rag wove book paper.
3,650,000 pounds supercalendered book paper.
180,000 pounds halftone book paper.
650,000 pounds coated book paper.
150,000 pounds lithograph paper.
2,950,000 pounds mimeograph paper.
700,000 pounds U S M O safety writing paper.
25,000 pounds U S M O writing paper.
10,000 pounds safety writing paper.
3,920,000 pounds writing paper.
420,000 pounds map paper.
250,000 pounds chart paper.
905,000 pounds manifold paper.
6,207,000 pounds bond paper.
4,000 pounds parchment deed paper.
967,000 pounds ledger paper.
457,000 pounds index paper.
6,000 pounds tissue paper.
455,000 pounds cover paper.
995,000 pounds manila paper.
1,020,000 pounds kraft paper.
320,000 pounds manila tag board.
700,000 pounds calendered tag board.
40,000 pounds manila cardboard.
310,000 sheets railroad board.
960,000 pounds bristol board.
10,000,000 pounds U. S. Postal Card bristol board.
9,000 pounds paraffin paper.
260,000 sheets gummed paper.
222,000 pounds blotting paper.
7,000 pounds stereotype molding paper.
35,000 pounds oiled manila tympan paper.
2,000 pounds plate-wiping paper.
6,000 pounds back-lining paper, for case making.
40,000 sheets pressboard.
50,000 pounds high finish red sulphite.
3,000 pounds news board.
750,000 pounds chip and straw board.
36,000 pounds marble grained board.
80,000 pounds box board.
900,000 pounds binders board.

Envelopes Wanted

The following quantities of envelopes will be purchased:

42,375,000 Kraft.
7,705,000 Writing, Sulphite, White and Colored.
115,000 Fine Writing, White and Colored.
510,000 Ledger, White.
1,355,000 Bond, 50 per cent Rag, White.
170,000 Bond, 100 per cent Rag, White.

Report of Specifications Committee

The specifications committee of which F. P. Veitch of the Department of Agriculture is chairman, submitted the following report to the Joint Committee:

The Committee on Paper Specifications respectfully submits its Twenty-second Report and the recommended schedule for paper for the public printing and binding and blank paper for the use of the Government departments and establishments in the District of Columbia for the year beginning March 1, 1931.

The principal changes recommended this year are as follows:

The following sections under "Instructions" have been rewritten in the interest of simplicity and clarification: "General Requirements," "Definition of Terms," "Quality and Inspection," and "Methods of Inspection and Testing." The headings of the last two sections have been changed to read "Inspection" and "Testing Methods," respectively.

Requirements limiting acidity and rosin size have been added to the specifications for 50 per cent Rag Light-weight High Machine Finish Book Paper, Lot No. 20, and 100 per cent Rag White Chart Paper, Lot No. 69, the object being to secure more permanent papers. The acidity requirements on 100 per cent Rag Manifold Paper, Lots Nos. 78-81, inclusive, has been modified due to the difficulty in obtaining paper of a lower acidity as desired.

Ground Wood Mimeograph Paper, Lot No. 41, has been eliminated from the schedule since there has been no demand for this paper by the various departments.

The stock requirements for Blue U. S. M. O. Safety Writing, Safety or Sensitive Design, Lot No. 51; U. S. M. O. Writing White and Blue Lot No. 52; Safety Writing, Colored, Lot No. 53, Sulphite Writing, White and Colored, Lots Nos. 55 to 61, inclusive; Sulphite Bond, White and Colored, Lots Nos. 101 to 105, inclusive, have all been changed to read "free from unbleached or ground wood pulp" instead of "100 per cent bleached coniferous chemical wood pulp." Your committee is of the opinion that the other requirements of the specifications will insure satisfactory paper, and that this change will allow the manufacturers a wider choice of material without lowering the quality of the paper.

A requirement for satisfactory ruling quality has been added to the specifications for all writing, bond, and ledger papers.

Limits on starch sizing have been eliminated from the specifications for 100 per cent Rag White Ledger, Lot Nos. 176-181 inclusive, as all information available indicates that starches now used in tub sizing have no deteriorating effect, but on the contrary are probably of some benefit.

The limit for ash in U. S. Postal Card Bristol, Lot No. 311, has been reduced from 10 to 7 per cent. The experience of the Government Printing Office during the past year has been that,

as a rule, postal card paper containing more than 7 per cent ash was unsatisfactory.

The bursting strength on Pressboard, colored, Lot No. 365, has been raised from 80 to 120 points in order to conform with good commercial practice.

One new lot (No. 367) has been added providing for High Finish Red Sulphite paper, the use of which has increased during the past few years.

In order to aid in farm relief work by providing an outlet for waste farm products such as corn or cotton stalks, the committee last year recommended the inclusion in the schedule of a specification for Plant Fiber Machine Finish Book Paper (Lot No. 16), and limited the paper under this item to that of which the stock consisted of not less than 50 per cent cellulose from corn or cotton stalks, flax, or cereal straws, wild or cultivated grasses, or some plants of like classes, singly or mixed in any proportion, together with bleached chemical wood fiber or rag fiber. The Joint Committee on Printing awarded a contract for 200,000 pounds of this paper of which 37,434 pounds was ordered by the Public Printer and delivered to the Government Printing Office. Your Committee has been advised that the Public Printer has been able to dispose of only 1,012 pounds of this paper, and that approximately 36,420 pounds now remain. The retention of this lot (No. 16) in the schedule for the coming year is recommended, but, unless there is an increased demand for this paper prior to the opening of bids, the Specifications Committee believes that it will not be necessary to make an award for this stock.

The Paper Specifications Committee has again given consideration to the proposal to substitute for the "stock" requirements of certain specifications for medium grade papers accelerated aging tests and such tests as copper number and percentage of alpha cellulose, which are used to determine the purity of paper stock. Your committee is in full sympathy with every suggestion to improve the specifications with the aim of securing more suitable papers for government use.

It is our opinion, however, that the available data on the significance and value of these proposed tests are not conclusive enough to warrant their substitution at this time, and also that paper makers are not sufficiently familiar with the tests to insure satisfactory competition.

This schedule embraces 182 lots, being the same number as called for in the schedule for 1930-1931. The quantity estimated for the full year beginning March 1, 1931, is 52,100,000 pounds as compared with 54,300,000 pounds for the previous contract period.

Hammermill Protects "Luna" Bond

The trade mark "Luna" owned by the Hammermill Paper Paper Company, Erie, Pa., was the subject of a recent suit brought against Parsons & Whittemore, Inc., by Hammermill.

A shipment of Bond paper bearing the water mark "Luna Bond Made in U. S. A." recently appeared in one of the South American markets. It was found that Parsons & Whittemore, Inc. was the shipper.

The bill of complaint filed by Hammermill against this shipper set forth that the plaintiff, having built up a large sale of its product and having duly complied with the law by registering and using its trade mark for years in world markets, was entitled to full protection against such infringements of its rights.

Parsons & Whittemore, Inc., consented to the Court's entering a decree adjudicating that Hammermill is the owner of the trade mark "Luna" and therefore is entitled to the exclusive use of that trade mark in domestic and foreign commerce, and that Parsons & Whittemore's shipment of paper bearing that trade mark was an infringement.

Under that decree the court issued an injunction permanently restraining Parsons & Whittemore, Inc., from further infringement of Hammermill's exclusive rights in the trade mark "Luna."

WHEELWRIGHT CO. ANSWERS

(Continued from page 21)

"This finish may be obtained from a large number of mills and is a well known trade name.

"Relative to the complaint that the paper is not genuine Vellum and that if this interpretation is put on the paper that it is a genuine vellum, which, as we understand it, is a skin of an animal, that it would be impossible to make the skin of an animal by hand and therefore the combination of words Handmade Vellum from this point of view is meaningless and nothing more than a coined name and in this sense means no more than:

"Fidelity Onion Skin made by Esleeck Manufacturing Co., Turners Falls, Mass.

"Doeskin Cover made by Chemical Paper Company, of Holyoke, Mass.

"Neither of these papers are made from onions or are they the skin either of an onion or an animal.

"There are many other similar names and combination of names which are all coined names which in their literal interpretation mean nothing as to the actual make up or source of material from which the paper is made.

"This has been the trade practice of years and can be substantiated by looking over the names in Lockwood's Paper Trade Directory for the last 25 years.

"We contend that the word 'Vellum' on account of its frequent and continued use in the paper industry indicates either a style of paper or a finish on paper more than it does its original meaning and that it is in such frequent use in the paper industry that no one is mislead when a paper is indicated as being a Vellum.

"In this connection I wish to point out the use of this word Vellum in two distinct types of paper; one indicating the word Vellum as indicating the finish such as;

"Atlantic Vellum, manufactured by Eastern Manufacturing Company.

"Baypath Vellum, manufactured by Strathmore Paper Company.

"Finance Vellum, manufactured by B. D. Rising Paper Company.

"Hadley Wedding, Plated Vellum Finish, American Writing Paper Company.

"Hamilton's Vellum manufactured by W. C. Hamilton & Sons, Miquon, Pa.

"The use of Vellum in the sense as we have referred to it in our Italiano refers to the look-through of the paper; a paper having a mottled cloudy look-through and being similar to such papers as the:

"American Vellum manufactured by American Writing Paper Company.

"Cloudweave Vellum manufactured by W. C. Hamilton & Sons.

"Nippon Vellum manufactured by Chemical Paper Company.

(Please note also that this paper is not made in Japan.)

"Samples of all of these papers may be obtained by writing to any of the paper manufacturers we have listed and also their current advertising matter is available.

"We have gone into this in detail to indicate that we are simply following the trade practice in naming our product and again reiterate that we have no intention of gaining an unfair advantage over competition and we are perfectly willing to rearrange or rename our paper, but we expect the same privileges and consideration now enjoyed by other paper manufacturers in this country."

To Distribute Hold-Tite Parchment Wrapping

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 22, 1930.—The Capital Paper Company of this city has been appointed central states distributor for the Hold-Tite parchment wrapping paper made especially for meat wrapping. The product will be distributed through the company's branch houses at Columbus, O., and Terre Haute, Ind., in the eastern and western teritory and through Indianapolis in the central territory. Hold-Tite parchment wrapping paper is a sulphate product.

Demand For Paper Expands In Philadelphia

Coarse Paper Market Active, With Wrappings and Holiday Specialties Moving In Good Volume —Paper Bag Situation Improves and Prices Are Firmer Than of Late—Pennsylvania Paper Mills Are Marking Time At Present

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 22, 1930.—While distributors endeavor to clean up warehouses and dispose of accumulations there is growing demand for all lines of paper.

The outlook for the coming year looms brighter for the manufacturers who will share in the replenishing of stocks for 1931 and who at this time are not conducting plants on the same schedule of production as last year in the similar period. Mills in the Philadelphia district report little activity of consequence and are marking time. Few manufacturers have sufficient orders on hand to maintain production throughout the early part of the New Year on appreciable scale. A few manufacturers of fine papers are campaigning strenuously in order to create an activity that will maintain their plants throughout the uncertain period of early 1931 and have been fairly successful in stimulation of tonnage demands to hold the first month or so. Those manufacturers in this section who make specialties have been more fortunate than the general wrapping paper producers in securing orders for January deliveries but find that purchases are confined to smaller lots than those made in the first month of the current year.

Wrapping papers and all lines of specialties needed for the holidays have been moving in good volume. There has been a good market for foil wraps and for foil covered boxes of fancy type for gifts. Corrugated containers and rolls are in the peak of demand for the year. Waxed papers, glassines, and cellophane sacks have been holding well. Tissues have been stimulated especially for colorings used for wraps, packings and for decorative purposes. Now that seasonal demand and efforts of the trade to steady the bag market have begun to show effects there is an upward revision which indicates results and reaction on the market. The larger bag producers in the past week announced a 10 per cent increase in self opening bags and a 5 per cent increase in squares. Though there is no great expansions, to warrant enthusiasm there has been a steadier shipping activity.

Campaign for Sales of Better Grades

There has been a concerted movement on the part of manufacturers to promote an interest in sales of the better grades of letter heads. Manufacturers are co-operating with jobbers in this movement by direct mail educational drives and by placing of samplers of higher grades of bonds, writing papers and like products in the hands of consumers, and then calling attention of the allied trades to the various paper houses from which these may be had and mill services in deliveries and stocking.

Paper Stock Listless

A listless market is being carried out while the manufacturers hold off buying for the coming year awaiting more definite indications of the business outlook, and local wholesalers of paper stock, rags and waste are marking time. A few inquiries drift into the offices but orders are confined to immediate needs of small quantities. Prices hold at the low levels of the year.

Reforestation Gains

The State of Pennsylvania has been forging ahead in its reforestration program in the past year and there is reported by the Pennsylvania Forestry Association, which met at the Bellevue Stratford Hotel last week, a gain of 270,594 acres in the past year in forest reserves. The average cost per acre was $2.88 and the acquisition scattered among 32 counties. The total holdings of the State now include 1,558,167 acres located in 33 counties, according to report of Carl P. Birkinbine, secretary of the association. Seedlings distributed from the State nurseries were 9,749,054, of which 447,500 were planted in State forests and the remainder by 1800 private owners. Since trees were first offered to private planters in 1910, the State has distributed over 92,000,000 young trees, the report states. The Forest Research Institute established ten months ago by the State, printed and distributed 91,000 copies of eight bulletins, 40,000 copies of six circulars, and 141,000 copies of a dozen different posters. In addition, four bulletins and three circulars were produced on particular subjects. A pocket map was printed showing the location of State forests. Henry L. Drinker was re-elected honorary president, Samuel L. Smedley was re-elected president, and Mr. Birkinbine was re-elected secretary.

Wholesale Waste Marchants Nominate Officers

In the pre-holiday dinner served at the Hotel Lorriane, Broad street and Fairmount avenue, and with it the combined quarterly session of the Philadelphia Wholesale Waste Merchants Association, there was nomination of officers to be elected at the February meeting. President Thomas A. Kenny, of the organization, and of the International Trading Company, presided, and William J. McGarity, Jr., secretary of the association, and of the Penn Paper and Stock Company, reported on the business routine. Following the service of the Christmas season dinner there was reported the re-nomination of the following officers: President, Thomas A. Kenny; vice-president, Charles J. McNichol of P. De Santi & Co.; treasurer, William L. Simmons of John Simmons Sons Company, and secretary, William J. McGarity, Jr. There was a round table discussion of business conditions, all reporting a poor year and with little signs of recovery. However, despite the lagging interest at this time there is belief that the coming year will be one of slowly rising trading as the present depression wanes.

National Paper Box Association Convention

Those paper dealers and manufacturers linked with the paper box industry who are associated with the Supply Division of the National Paper Box Manufacturers Association, will join in the coming conventions which will be held in the early part of the year, and those to be announced later. The local headquarters of the National Paper Box Manufacturers Association, Liberty Title and Trust Bldg. announces completion of the plans for the first meeting of the coming year to be held on January 28, 29 and 30 at the Book-Cadillac Hotel, Detroit, when the Western Division will assemble for its annual convention. The chairman of the division, J. E. Holman, of the Holman Paper Box Company, St. Louis, will preside. There is now under way development of plans for the annual convention of the National association, to be held in Washington, D. C. While it has been decided to hold the meetings at the Wardman Park Hotel, no date has been set, but it has been definitely decided that it will be in the month of May.

Hinde & Dauch Find Rush Service Needed

In the last minute rush and demand for corrugated containers, sheets and rolls, and allied products made by the Hinde and Dauch Company, there has been a steady stream of deliveries by the large fleet of trucks maintained by the paper products manufacturers from the Gloucester, N. J. mills to the Philadelphia

trade for holiday orders. The sudden demand has kept the mills at full speed of activity and with a special service of truck deliveries there has been ability to meet all purchases with despatch despite the delayed business of the holidays.

New Champion Bond in Distributors Hands

Announcement by the Philadelphia distributors of the Champion Coated Paper Company, of an additional sulphite bond called the Daily Mail has been made. The Garrett-Buchanan Company, A. Hartung, Inc., and the Paper House of Pennsylvania, have added this new nationally distributed bond to their lines, as local distributors of the Hamilton, Ohio, mills. It is stocked in white and colors.

H. J. Hogg Paper Co. Expands

There has been acquired by the H. J. Hogg Paper Company, 127 Arch street, an additional warehouse, which will give 11,000 square feet of space for this purpose. The new addition is located at Filbert and American streets, and will be devoted to housing the stocks of wrapping paper, specialties and bags, in which this long established firm has dealt.

William R. Ewald with D. L. Ward Co.

William R. Ewald, formerly associated with Campbell-Ewald Company, Detroit, Mich., has joined the D. L. Ward Company, Terminal Commerce Building, as vice-president in charge of promotional advertising. He will take up his duties with the local fine paper company after a long connection in the advertising field.

George W. Ward to Sail for Europe

George W. Ward, head of the D. L. Ward Company, will sail for Europe on January 6 and will remain abroad until the coming Paper Trade Convention to be held in New York the latter part of February.

Aatell & Jones Add New Units

New units have been added to the plant of the Aatell and Jones Company, 1314 South Howard street, which will provide for the speedy handling of larger orders for printed doilies, napkins, confectionery supplies and menus, as well as other paper goods used by hotels, clubs and institutions who consume volume orders. The new units are high speed presses of the Miller and Miehle type. The firm has secured the service doily contract for the Huyler Confectionery Stores, and has developed an extensive business in converting paper products in sanitary, fancy food containers, menus, tortoni and bakers supplies, with unique and exclusive, as well as original designs, in decorations and imprints. It supplies the leading hotels and clubs of the country.

H. C. Davis Conducts Southworth Campaign

A drive on the papers of the Southworth Company, West Springfield, Mass., is being conducted by the local manufacturers agent, the H. C. Davis Paper Company, with offices in the Drexel Building. The manufacturers are co-operating in the distribution of samplers of bonds, writings and ledgers of high quality to the consumers, with comprehensive assortments included. J. Spencer Brock is doing special work with the Davis Company on the Southworth line.

Bennington Wax Paper Co.'s New Easter Line

The latest addition to the shredded wax papers made by the Bennington Wax Paper Company, Bennington, Vt., represented in the Quaker City trade by Charles T. Elliott, Sr., and his son Charles T. Elliott, Jr., with offices in the Fidelity-Philadelphia Building, are in Easter packets of two ounces in all colors, including yellow, for the coming season. The shredded packets retail at 5 and 10 cents and can also be had in 100 pound bales. The smaller packets are cellophaned.

American Mills Paper Co. To Add Printing Department

A printing department will be added to the American Mills Paper Company, 2320 Wallace street, for the imprint of doilies, napkins and allied products, according to plans of the head of the firm, James L. Jacquet, who has been active meeting the needs of the hotels of the southern resorts. The firm, which has been developing a national demand among hotels, restaurants and clubs for its original designs in napkins, doilies and other sanitary products and food containers for restaurant and hotel trade will equip with printing and embossing units for the manufacture of glassine bags, napkins and doilies.

Milprint Products Corp. To Make Cellophane Bags

Cellophane bags for confectionery, foods and merchandise of small type, with imprints and designed, will be produced in the John M. Driver Division plant of the Milprint Products Corporation, at 57th street and Lancaster avenue. as soon as the printing units are completed. There will be installed in the local plant the printing units now being built in the Milwaukee mills of the Milprint Corporation, and after the first of the new year these will be ready for the local branch when production on the cellophane bags begins. The firm wil add these to its line of cellotype. The Milprint Products Corporation took over a year ago the plant of the John M. Driver Company for its Eastern branch. John Meagher is now manager of the Philadelphia branch.

A. B. Kehr Improved

A. B. Kehr, secretary and sales manager of the Enterprise Paper Company, 3rd and Callowhill streets, who has been confined to his home suffering from sciatica induced by strain from violent sneezing, has recovered and is now at his desk. He was confined to his home for the past month suffering from the peculiar ailment.

Raymond & McNutt Add Appleton Coated Papers

Raymond and McNutt, fine paper dealers, Sheridan Building, have acquired the Duplex Enamels, made by the Appleton Coated Paper Company, Appleton, Wis. The new grade is a folding coated paper with two colors, one on each side in contrasting shades and with six color combinations in the line for direct mail purposes and broadsides. It will take half tones up to 133 screen.

Leonard Fitzgerald With Hummel-Ross Fibre Co.

Leonard Fitzgerald, who is well known to the Philadelphia industry, and a former officer of the Ajax Paper Mills, Buck Run, Pa., is now connected with the Hummel-Ross Fibre Company, Hopewell, Va., working from the Quaker City offices. He will represent the Hummel-Ross Fibre Company through the local office in the Lewis Building, in the Western Pennsylvania territory and a portion of New York. He was formerly treasurer of the Ajax Mills, near Coatesville, Pa.

John F. Preston Speaks on Forestry

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 22, 1930.—Experiments of the Hammermill Paper Company of Erie, Pa., in making special forest plantings near the malls in order to command a suitable supply of timber close at hand and so avoid huge freight costs, were described at the recent forestry meeting here by Pohn F. Preston, forester of the company.

The meeting comprised lumbermen, foresters and others interested in the lumber industry from the entire central west and resulted in a permanent organization being formed to promote the reforestation of these states.

"Slowly, if the experiment of the Hammermill Company and the paper industry is successful," Mr. Preston said, "the land once cleared at so great an effort and cost for farms will be restored to the forest. It will not, however, be the unbroken forest of hardwood, pine and hemlock familiar to our forefathers, but a new forest molded in accordance with the needs of a great industry and put there that that industry may continue to live and thrive."

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A listless market is being carried out while the manufacturers hold off buying for the coming year awaiting more definite indications of the business outlook, and local wholesalers of paper stock, rags and waste are marking time. A few inquiries drift into the offices but orders are confined to immediate needs of small quantities. Prices hold at the low levels of the year.

Reforestation Gains

The State of Pennsylvania has been forging ahead in its reforestration program in the past year and there is reported by the Pennsylvania Forestry Association, which met at the Bellevue Stratford Hotel last week, a gain of 270,594 acres in the past year in forest reserves. The average cost per acre was $2.88 and the acquisition scattered among 32 counties. The total holdings of the State now include 1,558,167 acres located in 33 counties, according to report of Carl P. Birkinbine, secretary of the association. Seedlings distributed from the State nurseries were 9,749,054, of which 447,500 were planted in State forests and the remainder by 1800 private owners. Since trees were first offered to private planters in 1910, the State has distributed over 92,000,000 young trees, the report states. The Forest Research Institute established ten months ago by the State, printed and distributed 91,000 copies of eight bulletins, 40,000 copies of six circulars, and 141,000 copies of a dozen different posters. In addition, four bulletins and three circulars were produced on particular subjects. A pocket map was printed showing the location of State forests. Henry L. Drinker was re-elected honorary president, Samuel L. Smedley was re-elected president, and Mr. Birkinbine was re-elected secretary.

Wholesale Waste Marchants Nominate Officers

In the pre-holiday dinner served at the Hotel Lorriane, Broad street and Fairmount avenue, and with it the combined quarterly session of the Philadelphia Wholesale Waste Merchants Association, there was nomination of officers to be elected at the February meeting. President Thomas A. Kenny, of the organization, and of the International Trading Company, presided, and William J. McGarity, Jr., secretary of the association, and of the Penn Paper and Stock Company, reported on the business routine. Following the service of the Christmas season dinner there was reported the re-nomination of the following officers: President, Thomas A. Kenny; vice-president, Charles J. McNichol of P. De Santi & Co.; treasurer, William L. Simmons of John Simmons Sons Company, and secretary, William J. McGarity, Jr. There was a round table discussion of business conditions, all reporting a poor year and with little signs of recovery. However, despite the lagging interest at this time there is belief that the coming year will be one of slowly rising trading as the present depression wanes.

National Paper Box Association Convention

Those paper dealers and manufacturers linked with the paper box industry who are associated with the Supply Division of the National Paper Box Manufacturers Association, will join in the coming conventions which will be held in the early part of the year, and those to be announced later. The local headquarters of the National Paper Box Manufacturers Association, Liberty Title and Trust Bldg. announces completion of the plans for the first meeting of the coming year to be held on January 28, 29 and 30 at the Book-Cadillac Hotel, Detroit, when the Western Division will assemble for its annual convention. The chairman of the division, J. E. Holman, of the Holman Paper Box Company, St. Louis, will preside. There is now under way development of plans for the annual convention of the National association, to be held in Washington, D. C. While it has been decided to hold the meetings at the Wardman Park Hotel, no date has been set, but it has been definitely decided that it will be in the month of May.

Hinde & Dauch Find Rush Service Needed

In the last minute rush and demand for corrugated containers, sheets and rolls, and allied products made by the Hinde and Dauch Company, there has been a steady stream of deliveries by the large fleet of trucks maintained by the paper products manufacturers from the Gloucester, N. J. mills to the Philadelphia

trade for holiday orders. The sudden demand has kept the mills at full speed of activity and with a special service of truck deliveries there has been ability to meet all purchases with despatch despite the delayed business of the holidays.

New Champion Bond in Distributors Hands

Announcement by the Philadelphia distributors of the Champion Coated Paper Company, of an additional sulphite bond called the Daily Mail has been made. The Garrett-Buchanan Company, A. Hartung, Inc., and the Paper House of Pennsylvania, have added this new nationally distributed bond to their lines, as local distributors of the Hamilton, Ohio, mills. It is stocked in white and colors.

H. J. Hogg Paper Co. Expands

There has been acquired by the H. J. Hogg Paper Company, 127 Arch street, an additional warehouse, which will give 11,000 square feet of space for this purpose. The new addition is located at Filbert and American streets, and will be devoted to housing the stocks of wrapping paper, specialties and bags, in which this long established firm has dealt.

William R. Ewald with D. L. Ward Co.

William R. Ewald, formerly associated with Campbell-Ewald Company, Detroit, Mich., has joined the D. L. Ward Company, Terminal Commerce Building, as vice-president in charge of promotional advertising. He will take up his duties with the local fine paper company after a long connection in the advertising field.

George W. Ward to Sail for Europe

George W. Ward, head of the D. L. Ward Company, will sail for Europe on January 6 and will remain abroad until the coming Paper Trade Convention to be held in New York the latter part of February.

Aatell & Jones Add New Units

New units have been added to the plant of the Aatell and Jones Company, 1314 South Howard street, which will provide for the speedy handling of larger orders for printed doilies, napkins, confectionery supplies and menus, as well as other paper goods used by hotels, clubs and institutions who consume volume orders. The new units are high speed presses of the Miller and Miehle type. The firm has secured the service doily contract for the Huyler Confectionery Stores, and has developed an extensive business in converting paper products in sanitary, fancy food containers, menus, tortoni and bakers supplies, with unique and exclusive, as well as original designs, in decorations and imprints. It supplies the leading hotels and clubs of the country.

H. C. Davis Conducts Southworth Campaign

A drive on the papers of the Southworth Company, West Springfield, Mass., is being conducted by the local manufacturers agent, the H. C. Davis Paper Company, with offices in the Drexel Building. The manufacturers are co-operating in the distribution of samplers of bonds, writings and ledgers of high quality to the consumers, with comprehensive assortments included. J. Spencer Brock is doing special work with the Davis Company on the Southworth line.

Bennington Wax Paper Co.'s New Easter Line

The latest addition to the shredded wax papers made by the Bennington Wax Paper Company, Bennington, Vt., represented in the Quaker City trade by Charles T. Elliott, Sr., and his son Charles T. Elliott, Jr., with offices in the Fidelity-Philadelphia Building, are in Easter packets of two ounces in all colors, including yellow, for the coming season. The shredded packets retail at 5 and 10 cents and can also be had in 100 pound bales. The smaller packets are cellophaned.

American Mills Paper Co. To Add Printing Department

A printing department will be added to the American Mills Paper Company, 2320 Wallace street, for the imprint of doilies, napkins and allied products, according to plans of the head of the firm, James L. Jacquet, who has been active meeting the needs of the hotels of the southern resorts. The firm, which has been developing a national demand among hotels, restaurants and clubs for its original designs in napkins, doilies and other sanitary products and food containers for restaurant and hotel trade will equip with printing and embossing units for the manufacture of glassine bags, napkins and doilies.

Milprint Products Corp. To Make Cellophane Bags

Cellophane bags for confectionery, foods and merchandise of small type, with imprints and designed, will be produced in the John M. Driver Division plant of the Milprint Products Corporation, at 57th street and Lancaster avenue. as soon as the printing units are completed. There will be installed in the local plant the printing units now being built in the Milwaukee mills of the Milprint Corporation, and after the first of the new year these will be ready for the local branch when production on the cellophane bags begins. The firm wil add these to its line of cellotype. The Milprint Products Corporation took over a year ago the plant of the John M. Driver Company for its Eastern branch. John Meagher is now manager of the Philadelphia branch.

A. B. Kehr Improved

A. B. Kehr, secretary and sales manager of the Enterprise Paper Company, 3rd and Callowhill streets, who has been confined to his home suffering from sciatica induced by strain from violent sneezing, has recovered and is now at his desk. He was confined to his home for the past month suffering from the peculiar ailment.

Raymond & McNutt Add Appleton Coated Papers

Raymond and McNutt, fine paper dealers, Sheridan Building, have acquired the Duplex Enamels, made by the Appleton Coated Paper Company, Appleton, Wis. The new grade is a folding coated paper with two colors, one on each side in contrasting shades and with six color combinations in the line for direct mail purposes and broadsides. It will take half tones up to 133 screen.

Leonard Fitzgerald With Hummel-Ross Fibre Co.

Leonard Fitzgerald, who is well known to the Philadelphia industry, and a former officer of the Ajax Paper Mills, Buck Run, Pa., is now connected with the Hummel-Ross Fibre Company, Hopewell, Va., working from the Quaker City offices. He will represent the Hummel-Ross Fibre Company through the local office in the Lewis Building, in the Western Pennsylvania territory and a portion of New York. He was formerly treasurer of the Ajax Mills, near Coatesville, Pa.

John F. Preston Speaks on Forestry

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 22, 1930.—Experiments of the Hammermill Paper Company of Erie, Pa., in making special forest plantings near the malls in order to command a suitable supply of timber close at hand and so avoid huge freight costs, were described at the recent forestry meeting here by Pohn F. Preston, forester of the company.

The meeting comprised lumbermen, foresters and others interested in the lumber industry from the entire central west and resulted in a permanent organization being formed to promote the reforestation of these states.

"Slowly, if the experiment of the Hammermill Company and the paper industry is successful," Mr. Preston said, "the land once cleared at so great an effort and cost for farms will be restored to the forest. It will not, however, be the unbroken forest of hardwood, pine and hemlock familiar to our forefathers, but a new forest molded in accordance with the needs of a great industry and put there that that industry may continue to live and thrive."

Ontario Paper Manufacturers Fairly Active

Orders of Both Fine and Coarse Papers Are Practically Up to Machines — Tonnage Demand Consists Mainly of Orders For Immediate Requirements—Book and Light Weight Papers In Excellent Request—Tissues Moving In Good Volume

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, December 22, 1930.—With travellers in off the road for the Christmas holiday season the wholesale paper trade is operating lightly during the transition period between the old and the new year. Notwithstanding this, however, a fair demand exists for most lines of fine papers of the cheaper grade and it looks as if the stage were well set for really good business at the beginning of 1931. There are signs of gradual returning prosperity throughout the province generally and it is believed that the paper trade will be among the first to participate in it. There has been nothing like a slump in wholesale paper circles this fall, although, of course activity has been somewhat curtailed owing to general business depression. Not a few of the wholesale paper houses express themselves as well satisfied with the year's operations. For the most part they have had a good year all things considered. In the coarse paper field demand is somewhat draggy just now. Retailers have not done the big Christmas they have been accustomed to and that meant a reduced consumption of wrapping paper and paper bags. Owing to mild weather the Christmas trade came pretty much in a bunch and it was not as large as heretofore. This applies to pretty much all commodity lines and it naturally had its reaction on the coarse paper market.

In the paper mills a fair degree of activity exists, but as has been the case for months, tonnage is of the rush variety and orders in both fine and coarse papers are pretty well up to the machines. None of the sections are running to capacity but they are doing enough current business to make a very good showing. Book paper continues in good demand and there are signs of increasing activity among the coating mills. Light weight papers continue in excellent demand and they enjoyed a very good Christmas trade, especially in specialty lines, while standard tissues, in the way of towels, napkins and toilet rolls have been selling quite freely. The paper converting trade is none too active and there is only a moderate call for envelopes.

Business Good with Nashua

By strenuous sales efforts and expert factory production, Canadian Nashua Paper Company, manufacturers of waxed paper and similar lines, at Peterborough, Ont., has wound up the year with the most successful twelve months in its history. According to John R. Marshall, general manager, in 1929 the plant increased its business more than 70 per cent. over the previous year. This year will see 1929 topped by another 15 per cent. or more. Mr. Marshall states that the company and employees are going ahead planning and building for bigger business next year, feeling confident that they will find it. South Africa and Mexico will be placed on the firm's export list next year in the search for wider markets. This year Nashua products were shipped from Peterborough to New Zealand, Australia and the British West Indies. In Canada their business extends from coast to coast. The company has carried its maximum number of employees all through the year. Capacity of the plant was increased 100 per cent. during 1929. Machine for machine was duplicated almost throughout the entire plant and plans for further additions to machinery are now being advanced. "This machinery had to be kept going," said Mr. Marshall, "and the sales staff went out and secured the business. As to the outlook for business next year much depends on tariff changes at the next session of Parliament. Business will go ahead with a fresh impetus when a definite Governmental policy is announced." The Sealright Company, manufacturers of paper containers and milk bottle caps, is an associated company and they also are doing well. The containers are new in Canada and were introduced into Canada by the Sealright Company as containers for ice cream, moist foods, pickles, etc. Mr. Marshall looks for a growing demand for Sealright goods during the coming year.

Some Paper Box and Bag Statistics

Production of the paper box and bag industry in 1929 was valued at $22,707,699 as compared with $21,112,251 recorded in 1928. Hitherto statistics concerning this industry have been included in the reports on paper goods. Now, for the first time, paper box and bag figures have been segregated. This initial report gives production of firms specializing in the manufacture of these commodities and covers the greater part of production in Canada. There are, however, a number of firms in other industrial groups which make paper boxes and bags as a side line to their principal production. While value of output has increased, the number of establishments engaged in the industry in 1929 was 128, as compared with 132 in 1928. Ontario led with 72 companies. Quebec followed with 32; Manitoba and British Columbia had eight each; New Brunswick four, Nova Scotia two, and Alberta one. Capital investment in these concerns increased from $18,732,564 to $21,176,098 in 1929, a gain of 13 per cent. The average number of employees in the industry in 1929 was 5,492, an increase of 379 over the 1928 figure. The total sum paid in salaries and wages was $5,418,055. Materials used in the industry amounted to $12,065,490, as against $10,825,855 in 1928. Paper and paper board formed 88 per cent. of the total value of materials employed, being valued at $10,638,982. Products manufactured in order of their importance with regard to value were: stiff boxes, $6,060,733; corrugated boxes, $5,205,556; folding boxes, $3,710,680; bags, n.e.s., $1,792,902. Special bags of glassine, waxed paper, celophone, etc., were valued at $501,199. Other products included egg case fillers, mailing tubes, envelopes, soda straws and various other products.

News and Jottings of the Trade

Friends of J. Merty, of the executive staff of the Abitibi Power and Paper Company, Toronto, will be pleased to learn that he is recovering from the effects of an operation recently performed in St. Michael's Hospital.

Nils Fornander, one of the leading logging engineers of Sweden, has been in Canada for some weeks inspecting logging operations, following a similar visit to the United States. He stated that in Sweden they operate on a sustained yield basis and cannot afford to perform wholesale cutting operations as is done in Canada. Mr. Fornander expressed the opinion that it would be an excellent idea if the pulp and paper mills of Sweden were to have a woodlands association corresponding to the Woodlands Section of the Canadian Pulp and Paper Association.

F. H. Andrews, who has been superintendent of the groundwood department of the Belgo Division of Canada Power and Paper Corporation, for the past twelve years, is leaving Shawinigan Falls. He has accepted a position with the Anglow-Newfoundland Development Company and will shortly move to Grand Falls.

George Davidson, sales manager of the Howard Smith Paper Mills, Montreal, spent several days this week at the Toronto office of the company.

Northern Paper Mills Plan Research Laboratory

New Building At Green Bay, Wis., Construction of Which Has Just Been Started, Will Be Equipped On Elaborate Scale to Meet Practically Every Demand of Plant—Merrill A. Youtz, Ph.D., M.I.T., Will Be Placed In Charge of Expansion

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., December 22, 1930—Construction of a new chemical research laboratory building, the first of a series of new administration buildings planned for the near future, has been started by the Northern Paper Mills, Green Bay, Wis. It will be two stories in height, 106 by 32 feet in size, and of brick and concrete fireproof material. Upon completion the building will be equipped on an elaborate scale so that it will be one of the most complete laboratories in this section of the country, fully capable of meeting practically every demand of the mill. Merrill A. Youtz, Ph.D., who has a doctor's degree from the Massachusetts Institute of Technology, will be placed in charge. He has been on the research staff of the Standard Oil Company at Whiting, Ind., for the last eight years, and formerly was on the faculty of Lawrence College, Appleton, Wis.

In the process and development laboratory, there will be a large room open to the roof to accommodate large and tall apparatus. It will have one or more small digesters, acid making tanks, blow-pit tank, flat screen mixing tank, wet machine and circulating pumps—in short, a small, complete pulp mill. It will also have a small chipper, circular saw, groundwood mill, a log submerging tank for measuring log volumes, standard cord measuring rack and various weighing scales. These pieces will be used in the evaluation and comparison of various woods.

Pulp beating and paper making apparatus also may be included in this large room. There is to be a small beater and perhaps ball mill, hand sheet mould, press and steam dryer, and one or more drying ovens. Another part of the building will contain a general laboratory for less specialized activities. Equipment will be installed for moisture tests on pulpwood or chips, analysis of raw materials such as coal, sulphur, limestone, size and dyes and clay; also of corrosion tests on metals and alloys, ash tests, and equipment used in the plant. All other manner of tests for mill needs outside of the control laboratories will be made here.

In the highly specialized constant humidity laboratory there will be instruments for testing folds, tensile strength, tearing and the Mullen bursting test. Three smaller laboratories will be devoted to such work as dyeing of paper fibres, work on inks, experiments on the physical properties of loading materials; microscopic examinations and studies on pulp fibres, paper analysis and dirt inspections; bleaching of pulps under controlled conditions of temperature; composition, concentration and agitation. Plans also include the most complete chemical research library possible, with volumes from many countries besides the United States.

Details of the expansion were explained by Judson G. Rosebush, vice president and general manager, in an address at the annual conference of salesmen held at the plant last week, with 120 attending. "We feel that firms which don't lie down and cry about hard times, but which go out aggressively after new business, may rely on reasonable sales at a fair profit," he said. "The Northern has run at full capacity during the past year, and proposes to run at full capacity during 1931; in fact we have a number of plans for further expansion."

Paper Manufacturers Optimistic

Mills are keeping up their optimism and looking for an upturn in orders after inventories are taken. The Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has suspended operations for only a few days in December in each mill, and will have all of them in full operation right after Christmas. No shutdowns are expected after the first of the year. The power situation has been a problem due to the low stage of the Wisconsin river, but enough additional power has been purchased to keep the mills running most of the time. "There is every reason to believe that the Consolidated mills will operate quite steadily after the first of the year," says Clarence E. Jackson, speaking for the officials.

One machine has been kept in steady operation at the Nicolet Paper Company, DePere, Wis., with eighty employees working eight or nine hours a day. The company expects to continue in operation steadily. "The prospects are not any worse than during the past year," says Arthur Brown, manager. "If anything, they are better."

A statement was also made by Herman Miller, manager of the DePere Paper Manufacturing Company, DePere, Wis., as follows: "During the past year the plant has been operated almost continuously. No fewer than 50 men are employed the year around, and this number is increased during periods of heavy orders. The plant ran 100 per cent the first half of the year and not less than 90 per cent the second half. Just now we are running rather light. Salesmen report a hand-to-mouth business, but most of the people in business expect a picking up after inventory time the first of the year. It will take at least 60 days after New Year's before the industries will begin to feel the revival. We have been fortunate in being able to obtain sufficient orders to enable us to keep our plant going as it has. Prices, however, are very low."

News of the Industry

Prescribing rates equal to 25 per cent of the first class rates effective February 1, 1931, the Interstate Commerce Commission has caused a reduction in paper board rates on shipments from Wabash, Ind., and Urbana, Ohio, to points in Wisconsin. The decision grew out of a complaint filed by the United Paperboard Company, pointing out that rates to Eau Claire, Wis., as a focal point, were lower than those to Madison, Milwaukee and the Fox River Valley, although the haul to Eau Claire was much further. The railroads argued that all rates to Wisconsin and Minnesota points were too low.

In another rate case, the Northwest Paper Company, Cloquet, Minn., has filed with the commission an exception to the proposed report advocating dismissal of complaints. The paper company seeks a reduction from its present rate of 52 cents on sulphur shipped from Hoskins, Texas, and points out the rate to Fox River Valley points in Wisconsin is 43.5 cents and to Northern Wisconsin, including Eau Claire and Park Falls is 46.5 and 47.5 cents. The Minnesota mill is in direct competition with these, it is claimed, and the present rates are prejudicial.

There has been organized at Appleton, Wis., the Northern Wisconsin section of the American Chemical Society, comprising eight counties. Its officers are: Dr. Harry Lewis, chairman; Prof. L. A. Youtz, vice chairman; Dr. L. C. Fleck, secretary and treasurer. The membership committee consists of Dr. J. O. Frank, Dr. Fleck and E. L. Foreman. Twenty-one members have been enrolled and meetings will be held the third Tuesday of each month. The local section was founded by Dr. J. R. Fanselow, of the Kimberly-Clark Corporation, and Dr. Harry Lewis, of the Institute of Paper Chemistry at Lawrence college. At the next meeting, Dr. George J. Ritter, of the U. S. Forest Products Laboratory, Madison, is to be the speaker.

Brighter Outlook For News Print Industry

Every Avenue to Improve Conditions Being Thoroughly Explored and Some Kind of Unified Control Seems Assured—Dividends Declared By Brompton and St. Lawrence Organizations Afford Ray of Sunshine In Situation

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., December 22, 1930.—What is described as a ray of sunshine in the news print outlook is contained in the dividend notices just published officially by Brompton Paper, St. Lawrence Paper Mills and St. Lawrence Corporation. Judging recent action of these companies' securities on the Stock Exchange many thought that the dividends would be passed. As they have not been passed it is a fair assumption that they have been earned. The dividends declared by Brompton and St. Lawrence will go for the most part to the holding company, St. Lawrence Corporation, which in its turn declares a payment to its shareholders.

Informed opinion now inclines to the belief that shares of paper companies have been thoroughly liquidated in the recent slump, and that so far as news print is concerned there has been an overdose of gloom.

Meanwhile there is unnoted paucity of news regarding the negotiations for the long-talked-of merger of leading companies, practically the only information on the subject published here consisting of the reprinting of extracts from the PAPER TRADE JOURNAL. There is still optimistic talk in the industry regarding re-organization plans. It appears now to be taken for granted than an agreement of some sort has actually been arrived at for some form of unified control, and it is said that appraisal of the physical assets of each unit is going forward steadily. An avenue which it is claimed has been explored is one which would provide security for bond and debenture holders. The idea is that the proposed holding company might exercise control through common stock only, leaving all senior securities of component companies on their present basis. This would obviate making stock exchanges in respect of the various preference issues, and ensure to these latter whatever benefits might come from unified control. Furthermore, only the consent of the holders of common stock would be necessary to effect consolidation.

So far the plan is only a suggestion, for there are many complications which would have to be considered. But it would appear to indicate that every avenue is being thoroughly explored.

Donnacona Paper Co.

Donnacona Paper Company's operations for 1930, it is reported, will show a small deficit, as compared with profits in 1929 of $2,904 and in 1928 of $62,371. Last year earnings were $829,861. The sum of $201,957 was set aside for depreciation and depletion and bond and debenture interest totalled $625,000. The company is controlled by Price Bros. & Co.

Publisher Wins Suit for $50,000

A cable from London, England, announces that Charles S. Campbell, of Edmonton, Alberta, has won his appeal to the Privy Council against decisions of the Ontario Courts in a dispute with the National Trust Company, acting as executors of the estate of the late E. A. Wallberg.

The action hinged on the introduction by Mr. Campbell of Lester Clarke, president of the Newspaper and Magazine Corporation, to Wallberg, then president of the Lake Saint John Power and Paper Company. Mr. Campbell, when he brought suit against Wallberg in Toronto three years ago, claiming $1,200,000 asserted Wallberg had verbally consented to pay three per cent. commission on resulting sales of news print. Wallberg, however, contended that the question of payment was not discussed and that Mr. Campbell's intervention had nothing to do with the sale. He understood Campbell was secretary to Mr. Clarke, he said. In July 1928 by a decision of Mr. Justice McEvoy, Mr. Campbell was awarded one per cent. of the purchase price of the news print but an appeal against this was upheld by the Appellate Division, whence it went to the Privy Council.

The judgment of the Privy Council stated that the verbal agreement between Wallberg and Campbell stipulated for payment of "a commission" but there was no indication of the amount of the commission, nor how the amount was to be ascertained.

"The contract can only mean that Campbell shall be paid a proper lump sum in remuneration for his services," the judgment continued. "It is no objection to this view that a commission frequently or even commonly takes the form of a percentage. The word commission may quite properly, both from the legal and commercial points of view, be employed as denoting a lump sum which represents no percentage upon anything—as, for instance, agreement to pay a commission of five hundred pounds."

Their lordships, however, were unable to agree with the view, as to the amount, which prevailed in the Ontario Appellate Division. They appreciated the great difficulty which existed in assessing the amount in view of the meagerness of the evidence on this point, their judgment added. The parties however concurred in requesting their lordships to end the matter here by themselves fixing the amount of Mr. Campbell's remuneration.

In their lordships' opinion the remuneration should not be determined by reference to the labor of Mr. Campbell. Beyond going to Toronto and introducing the prospect, Clarke, his labor was nil. The remuneration should be determined by reference to the value to Wallberg of what this produced, the judgment went on. The contract was of a very exceptional kind. It ensured for 10 years disposal of the Lake Company's entire output. The total price payable to the Lake Company might well amount to $40,000,000. Its performance was guaranteed by William Randolph Hearst," the judgment pointed out. Their lordships are of opinion that the sum fixed by the appellate division should be materially increased; and that a proper remuneration to appelant under the agreement with Wallberg would be $50,000. The respondent will pay to the appellant the costs of appeal."

Paper Demand Quiet in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 22, 1930.—There is some demand for kraft and here it is believed the bottom on these grades has been reached. Some demand is being had for coarse paper and it is generally believed that this demand will become more active after the first of the year. In fact it is believed that business in general will pick up after the holidays, though no one is able to give any reason for this supposition.

Paper stock men say their market is none too good. They are selling only what they have to sell to make room in their already overloaded warehouses. Prices are far down below normal.

The pre-Christmas demand for cellophane and other similar papers was very good. The increasing number of uses for these grades is largely responsible and it is predicted next year will see a continued expansion of this market.

Paper men are watching the printing market in this state pretty closely. Now is the time when most of the county units are advertising for bids for the coming year.

Completes $2,500,000 Rehabilitation Program

American Writing Paper Co. Will Finish Big Improvement Work January 1 When Platner & Porter Div. Has Been Transferred to Holyoke—Great Credit Due President S. L. Willson and Comptroller L. C. Reynolds for Vision and Courage

By A. Jackson, Chief Engr., Engineering Dept.

The American Writing Paper Company, Inc., of Holyoke, Mass. has practically completed a $2,500,000.00 program of rehabilitation, which embraced readjustments, additions and major physical and mechanical changes and betterments in every division of the company. The final major step in this huge and courageous undertaking of consolidating its mills in Holyoke will be completed by January 1, 1931, when the manufacturing previously carried on at their Platner & Porter Division at Unionville, Conn. will be completely transferred to Holyoke.

High Spots in the Changes

The high spots in the many changes covered by the American Writing Paper Company, Inc. two-year program of rehabilitation are:—

Consolidation of all plants in Holyoke, Mass., where closer supervision and concentration of manufacturing will be possible.

Moderization of offices, etc. in the general office building.

The establishment of a new 3-story Laboratory, which also houses the Employment and Payroll Departments.

Two new large steam generating plants complete with accessories.

New hydraulic turbines to which are connected new electric generators so that the power can be distributed to the many departments in the factories.

Revamping and improvement of the machinery which includes new beating equipment and additions to the paper machines to increase production, and finishing equipment to handle the paper after being made.

The consolidation of three divisions: the Beebe & Holbrook, Massasoit and Wauregan into one operating group.

The purchase and installation of a machine for making high grade board products previously made at Windsor Locks, Conn.

The transferring from Unionville, Conn., of the paper making and finishing equipment to the new quarters in the Platner & Porter-Parsons Division is the final step of the program which necessitated many changes in the mill buildings to properly take care of the world-famous Coupon Bond.

In addition to the above noted revamping, it was necessary to look after the receiving, handling, storage of raw materials, finished products and shipping facilities. These have been modernized, with the resultant elimination of unnecessary handling and confusion of hazards. This particular portion of the company's rehabilitation program included the establishment and building of new storage facilities, spur trackage connected with the main railroads, overhead trolley systems, traffic and storage lanes in every division and a distinct separation of the inflow of raw material and the outgo of the finished products. The finishing department of practically every division has been revamped for greater efficiency in handling the specific grade of paper made therein.

The matter of wasted fiber has been taken care of in every mill depending upon the product manufactured in each mill by the use of save-alls and changing the white water systems. The steam headers in every mill have been inter connected so that they are one common header and permit the reuse of all steam so that exhausting to the atmosphere is not necessary anywhere. Most of the mills have new elevators in place of the old style elevators which were in use. The repair shop building which formerly occupied two floors has been concentrated on one floor with the addition of modern repair equipment, particularly the equipment for grinding knives. All of the finished stock rooms in the various mills have been rearranged and so concentrated that finished stock is now kept in the most orderly and methodical manner possible with locations provided for each item of stock, so that obsolete or inferior material is immediately visible and disposed of, generally by sending same back to the beaters. The arrangement of stock rooms now permits perpetual inventory control.

Starting with the unique vast and most recent improvement at what is now the Platner & Porter-Parsons Division, it is really worth while to chronicle the great changes and additions that have been made in each division of the American Writing Paper Company, Inc. and following is the report of events at each division:—

Platner & Porter-Parsons Division

The most important feature of the changes at this division is the conversion and modernization of the former Little Mt. Tom Mill wherein the exclusive manufacture of Coupon Bond will take place. The entire interior of the building is being revamped and new concrete and steel foundations are already installed to support the various machines required in the manufacturing process. The mill building can hardly be considered a part of the original Parsons Division as it is set apart from the Parsons Mill buildings, although an underground tunnel connects the mills. This tunnel is used for steam and water mains and will also permit the moving of men or material between the mills.

The rags for the Coupon Bond will be prepared in the Parsons Mill where they will be sorted, cut and converted to half stock and later transferred through the tunnel to be beaten and made into paper.

In duplicating exactly the condition under which Coupon Bond was made at Unionville, the new Norwood Filter Plant and the new York Refrigeration plant will play an important part in preparing water that will match the chemical analysis, coolness and color of the water used there for so many years. For the operation in Holyoke, the water will flow from the Holyoke Water Power Company's first level canal, near the dam, into a sedimentation basin, being first treated chemically to permit the coagulation and settlement of all foreign matters before passing

FILTER PLANT PARSONS DIV.

through the sand filter beds. The water after being clarified by the beds of sand in the filters is allowed to remain in a large clear well before being pumped to the various machines using same. This assures an abundant supply of clean water. The water is pumped from one of the clear wells to the new Refrigeration Plant where it is allowed to pass over the coils of a Baudelot cooler in order to control the temperature of the water used in making the Coupon Bond. The Baudelot cooler is a part of the new Refrigeration Plant recently installed by the York Ice Refrigeration Company and is capable of cooling sufficient filtered water to take care of the needs of the mill. The plant containing the refrigerating equipment is located in a separate building so constructed that no possible leakage of ammonia fumes can seep into water or into the paper mill. Extreme care has been taken to provide clean, clear, sparkling water of a quality equal to that of Unionville.

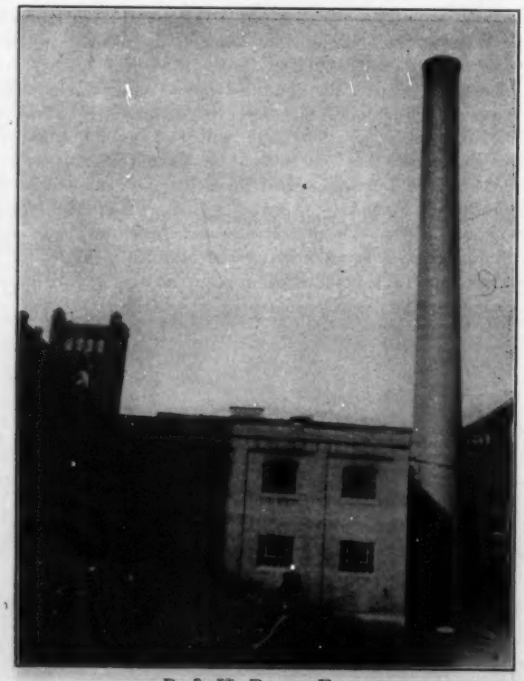
All of the machinery is being equipped with electric motors including beaters, jordans, paper machine, finishing machinery and accessories, which will provide precision control. The machinery will be moved intact so that the same machines will be used for making the high grade Coupon Bond.

The lofts in which the paper is allowed to dry and season have been constructed so that the drying can be regulated by proper heating and ventilation systems to provide uniform product. The facilities for receiving, handling, storage of both raw material and finished paper have been thoroughly modernized.

One of the three machines in the Parsons building has been completely revamped to make manifold papers and the dry end has been so constructed that either roll or sheet papers can be taken off at the machine. The Parsons building has had additional beaters installed so as to be able to run all three machines on bond papers and this also required the installation of additional power equipment.

Albion Division

The outer appearance of the plant has been considerably changed by the alterations made to the old buildings and the newly constructed buildings. The old wood store houses have been replaced by a modern brick storage building, having an unloading platform extending the entire 100-foot length, which facilitates unloading the raw materials directly into the building from the extended railroad siding which now crosses the rear of the property and also serves the Crocker Division.



B. & H. Boiler Plant

The three buildings housing the three paper machines have been reconstructed together with the annexes which house the Jordans and steam engines. The old style sloping roofs have been replaced by the more modern truss roofs which provided an increased height of ceiling and allows the daylight to enter through larger windows on both sides of the rooms. The old Boiler House has been converted into a well equipped repair shop. To the finishing and storage building has been added an addition which provides greater space for finishing and the storage of finished product.

Two new Leffel modern type water wheels have been installed to replace the several inefficient wheels previously used. The new wheels have been connected to new electric motor generators to provide power for isolated equipment, thereby doing away with long lines of shafting which was always a cause of much attention. The generators also provide power for the three direct-connected electric-driven Jordan engines as well as govern the speed of the line shafts driving the beaters. The panel board in the control room for operating the electrical equipment is provided with a control for handling outside power in case of emergency.

Changes have been made to the three paper machines to take care of the specific paper made. Screens were added where necessary and an entire equipment of riffler boxes provided to remove the dirt in the stock going to the machines. Where it was found necessary, they altered the Fourdriniers, press parts, added new additional driers to the machines, and on one machine they installed a new size press and necessary driers. The old winders on two machines were replaced with modern ones. New Marshall drives were added to two of the machines and the drive on the third machine altered to make all the drives uniform. Heavier engines were provided for the three machines and parts of the accessories have been motor driven. The equipment in the finishing room was relocated to provide handling of the finished product with greater efficiency. A new spur track was provided by the railroad to facilitate the shipment of the paper from the mill.

B. & H.-Wauregan Division

This group comprises what was once three separately operated mills. The boiler house which furnished steam to the group was completely surrounded by the several buildings and nearly submerged by them. It was rather old and housed boilers about thirty years old. This building has been completely renovated and instead of boilers, it now houses the repair shop which takes care of the immediate needs of the Division. The old boiler house previously used by Wauregan Division after being thoroughly renovated was converted into a garage. It was necessary to construct a new boiler plant including building, stack, boilers and accessories. The new building was located on a part of the property which is still more or less central and which could be served by a railroad siding. A new railroad bridge was built over the second level canal which permitted the railroad to extend a spur track onto the property. This spur track allows coal and other raw materials to be delivered into the Division as well as permitting shipment of finished material by carload.

The main mill building exteriors were changed very little. The interiors, however, were altered considerably to take care of the relocation of the finishing equipment and the handling and storage of the raw materials and finished product. The old Massasoit building was connected to the Beebe & Holbrook group by the addition of a new three-story brick building. A new double-decked covered bridge allows paper to be transferred from the machine room to the finishing room. Another double-deck connects the plater building to the finishing rooms which are on two levels. A third bridge was provided for handling the paper from

the paper machine in the Wauregan Division to the finishing room. This consolidation of finishing allows concentration on the finished product. Two buildings which were previously used for the storage of raw materials and finished paper were converted into finishing rooms. One houses the platers and the other is used for sorting, trimming, counting, etc.

New motor generators were installed to economically use the hydraulic power and to regulate the speed of the main line shafts. New tubs were provided for the beaters.

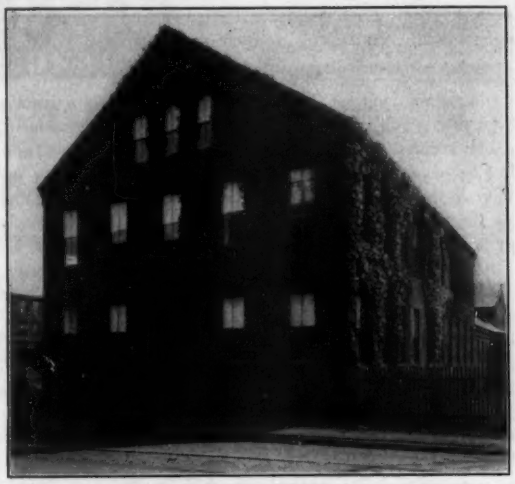
A new Barber Drier was installed in the building once occupied by one of the roll pasting machines, leaving one roll pasting machine at the mill.

Laboratory

The old three-story finishing building of the Wauregan was completely renovated and is now the central laboratory. All the devices used for testing materials used in the making of paper as well as finished product are in evidence. The main or street floor of the building houses the offices of the laboratory, a combined library reference department, conference room, and the main laboratory where all analytical work and fiber testing is carried on. To the rear of the main analytical laboratory is a humidity controlled room wherein all physical tests are made under a controlled temperature and humidity. The control equipment was installed by the Carrier Engineering Company and provides conditions equal to the national standard of 75 degrees temperature and a humidity of 50 per cent with an allowance of one per cent. A small refrigeration plant is necessary to control the temperature during the hot or summer weather. Schopper folding testers, Mullen testers, Elmdorf testers for tear, equipment for testing sizing and curl of paper as well as psychrometers for testing the air in the room are among the equipment.

On the second floor of the laboratory building, the miniature Fourdrinier paper machine is on display. This machine is nationally famous, and despite its size, it can make a good sheet of paper. There are two small beaters, two rag or bleach boilers, a drying cylinder, paper grinder, small size press; also hand moulds and equipment for doing all sorts of research and experimental work on pulp and rags. One room properly insulated contains a pebble mill and a disintegrator for disintegrating and separating the wood pulp fibers to be tested for freeness and Mullen tests. Another room houses a large nest of pulp ovens where the pulp is dried out to determine the amount of moisture in shipments received at the mills. There is one room, properly shut off from light, in which the pulp is tested for color and dirt. The equipment also includes a Fade-ometer for measuring opacity and an Ingersoll glaremeter for testing the glare of paper and an experimental coating machine for testing various shades of blue for use on blueprint paper. There is also one room which is used entirely for chemical research work.

The remainder of the second floor is occupied by the inspection room where samples of paper from all the mills of the American Writing Paper Company, Inc. are inspected and either approved or rejected. All samples are carefully filed away after inspection. In an adjoining room, protected from the light, all of the standard samples are kept for reference. The third floor of the building is used for the storage of equipment and stock used in the Laboratory. The basement of the building is used to house the Employment and Payroll Departments.



THE LABORATORY

Crocker Division

The old boiler house at this mill was discontinued and the steam is now supplied to the mill by the same steam plant which also supplies steam to the Albion Division, Mt. Tom Division, Nonotuck Division, Gill Division, Repair Shop and Engineering Department. The new steam pipe line connecting the mill to the boiler plant is approximately 1500 feet long. The old boiler house was remade into a three-story storage building which is provided with a long receiving platform to allow the raw materials to be unloaded directly into the building from the cars on the extended railroad siding.

A new motor generator was installed to allow the hydraulic power to be properly distributed and to regulate the speed of the line shafts.

The Yankee drier was disposed of and the machine lengthened out to increase production. A suction couch provided more flexibility to the Fourdrinier of this machine. One new beater is being added to take care of the increased production. A chlorine system for making bleach is being installed to replace the present

INTERIOR OF LABORATORY

INTERIOR OF LABORATORY

system of using bleach powder. An embossing press has been transferred from the Windsor Division and will allow the division to do the embossing of their cover papers.

Gill Division

The manufacturing of board products has been transferred from the discontinued Windsor Division and is now made in this mill. The receiving, handling and storage of raw stock and the handling, storage and shipment of the finished product in this mill have been separated and re-arranged to provide a circular flow of the materials being transferred. This arrangement is for greater efficiency. This necessitated the construction of a new brick store house and additions to the present store houses. A new Industrial truck was installed to take care of handling the materials.

The entire beater room and beater equipment have been revamped to considerable advantage. The old chests have been altered and new ones added together with pumps of sufficient capacity to take care of the amount of stuff being processed.

The board machine purchased for the mill to replace the Fourdrinier machine, recently sold, consists of seven cylinders, three presses, sixty-one driers, two stacks of calenders, two-drum reel, Duplex cutter and two-shaft compensating winder. The wet end of the machine including the screens was assembled in such a way that it can be easily kept clean. Copper pipe was used throughout and the vats lined with brass for cleanliness. The surface of the calender rolls was treated to prevent rusting. Cleanliness of product is one of the important features gained by transferring this work to Holyoke.

Linden Division

Few changes were necessary at this division to accomplish the purposes desired. Two new motor generators were installed to drive and also regulate the speed of the heavy line shafts driving the machinery in the mill. A new beater was added to increase production. The storage and handling facilities were re-arranged to increase efficiency.

Mt. Tom Division

Two new Leffel modern type water wheels have been installed to replace the old inefficient equipment. One of these wheels is directly connected to the old line shaft while the other is direct-connected to a vertical generator. Additional washing and drainer capacity has been added to take care of the increase of production of the rag content paper. Two new motor-driven direct-connected Jordans have been installed and at present the beater room is being revamped and new beaters installed. These have been designed to increase production and at the same time use less power per ton of product.

Nonotuck Division

The old beaters are being replaced by new ones designed for high speed circulation reducing the power requirements per ton. The beater room equipment is being relocated for better efficiency in handling the stock and to provide space for lengthening the paper machines if found necessary. One of the paper machines has been altered and a new size press added to increase the production of the grades of paper being made at this mill. Other additions will be made to the paper machines at an early date.

GILL MACHINE LOOKING FROM WET END

Riverside Division

Marked improvement in efficiency and production in this unit has resulted from the re-arrangement of the finishing rooms and equipment. Two roll embossing machines were installed in the room previously occupied by three super calenders which were discarded. Additional cutters and trimmers were necessary to handle the increase in production.

The ruling of paper is now taken care of at this Division instead of at several places. One entire floor is occupied by this department. The plating of paper is done in another room of the finishing building where the necessary rooms have been installed for properly conditioning the paper to be plated.

A modern roll pasting machine occupies still another room. This allows the paper made in the mill to be pasted and finished without transferring same to other divisions.

The improvements to each of the two paper machines include new screens, a new size press and additional driers. Part of this work has already been completed.

The beater room remains unchanged except for the installation of a size dispensing system.

The storage and handling of the raw materials and finished product have been well taken care of.

The old horizontal return tubular boilers have been replaced in the boiler house with three new water tube boilers. The new boilers and accessories have not only improved the appearance of the plant, but they are more efficient than the old ones.

The Engineers and Builders

Almost all of the building changes were done by the LaFrance Construction Company, and the revamping and rearrangement of the machinery was handled by the repair department and maintenance crews of the American Writing Paper Company, all under the supervision of the engineering department, in charge of Andrew Jackson, chief engineer who cooperated with the approval of the manufacturing departments in charge of L. M Yoerg, vice-president.

Credit for Broad Vision

This decided improvement in the physical assets of the American Writing Paper Company in a comparatively short time certainly reflects great credit on S. L. Willson, president of the company, and L. C. Reynolds, Comptroller and Assistant to President, directing engineering and finance, first of all for visualizing this difficult program of rehabilitation and consolidation and last, but not least by any means for the courage to carry it to a successful conclusion.

Paper Mill Employment Decreases

Employment in paper and pulp mills decreased in October compared with September while in the paper box industry the reverse was true according to the Bureau of Labor Statistics, Department of Labor.

Reports were received by the Bureau from 212 paper and pulp mills which gave their September employment at 56,263 decreasing in October to 55,561, a decrease of 1.2 per cent. The weekly payrolls in these plants also decreased from $1,419,078 in September to $1,407,261 in October, a decrease of 0.8 per cent.

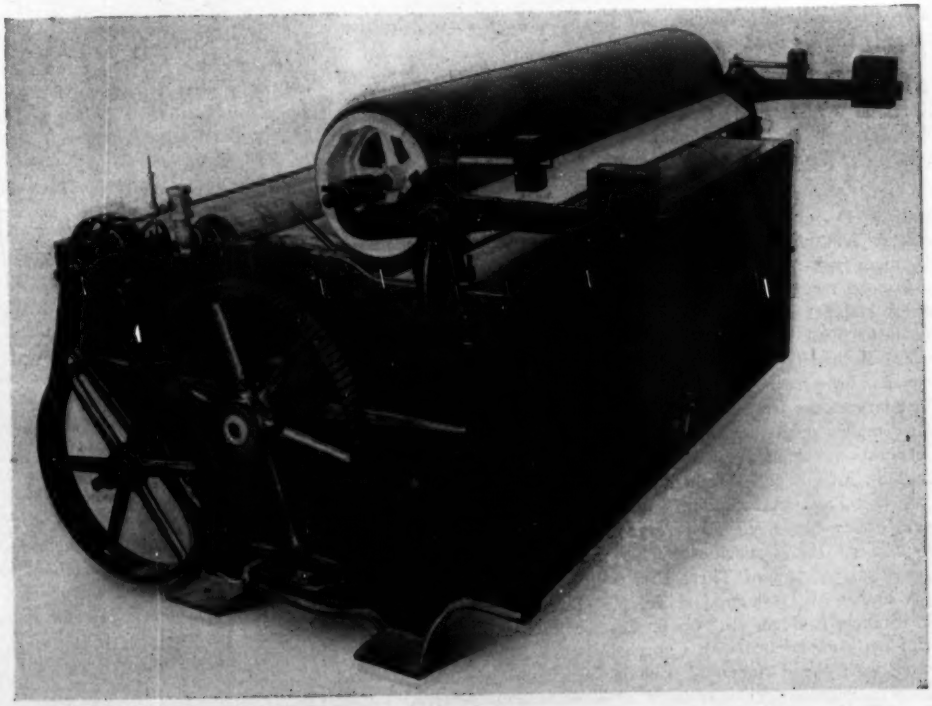
The Bureau also received reports from 197 paperbox factories which gave their September employment at 19,235 increasing in October to 19,535 an increase of 1.1 per cent. The weekly payrolls in these factories also increased from $435,404 in September to $442,816 in October an increase of 1.7 per cent.

BIRD MACHINERY

THE COMMON-SENSE WAY TO MAKE A PROFIT ON FIBRE RECOVERY:

The Bird Closed System is a practical, common-sense, profitable system. It fits smoothly into the regular mill routine. It operates with simple equipment that is inexpensive to install and operate. It reduces to a minimum the ultimate loss of stock leaving the mill.

Let us show you how your mill can use the Bird Closed System to increase net profits. Write for the complete story.



BIRD MACHINE COMPANY, SOUTH WALPOLE, MASSACHUSETTS

BIRD CLOSED SYSTEM

4603

Obituary

George T. Keyes

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 22, 1930.—George Thomas Keyes, president and treasurer of the Nashua River Paper Company, East Pepperell, Mass., one of the most prominent men in the paper industry in the country, died Wednesday at his residence, 338 Beason street, after a short illness.

Mr. Keyes was born at Newbury, Vt., September 7, 1867, the son of Henry Keyes and Emma Frances (Pierce) Keyes. He studied at Mr. Nichols's private school in preparation for Harvard College, from which he was graduated in the Class of '89.

During his undergraduate years he was prominent in college activities. He was captain of the freshman crew, president of the boat club during his senior year, was a member of the class day committee, the university cricket team, the varsity club, the A. D., and Alpha Delta Phi. He was a director on the Harvard Co-operative society, and belonged to the Institute, the D. K. E., the Hasty Pudding Club, the Glee Club and the Freshman Glee Club.

During the years 1889 and '90 Mr. Keyes studied at the Harvard Law School. From January, 1891, he was with the Fairchild Paper Company at East Pepperell, which he later acquired and continued the business with his brother, Charles W. Keyes, under the name of the Nashua River Paper Company.

He was a member of the Union Club of Boston, the Harvard Club of Boston, the University Club of New York, and the Groton Hunt Club. In 1928 Mr. Keyes was elected representative for the Twelfth Middlessex district, and was to have served in that capacity for a second term.

He is survived by his wife, who was Emily Brown Eaton of Worcester; a son, George T. Keyes, Jr., and a daughter, Mrs. Kenneth W. Marriner, both of this city; a grandson, Kenneth W. Marriner, Jr. A surviving brother is United States Senator Henry W. Keyes of New Hampshire.

J. A. Bothwell

EAST ANGUS, Que., December 16, 1930.—Joseph A. Bothwell, for many years president of Brompton Pulp and Paper Company, and more recently a director of the St. Lawrence Corporation, which includes Brompton, died here today. He was a leader in the news print industry.

Mr. Bothwell, who was 59 years old, had been connected at various times with many other paper and lumber companies in Canada and the United States. He was president of the Brompton company until the formation this Spring of the St. Lawrence Corporation, which absorbed Brompton, St. Lawrence Paper and Lake St. John Paper. He had also been president of the Canadian Pulp and Paper Association.

A former Mayor of East Angus, Mr. Bothwell was a Liberal in politics. He is survived by his widow and a daughter, Mrs. Douglas Hyndman of Three Rivers.

A native of Durham, Quebec, Mr. Bothwell was educated at St. Francis College, Richmond, Quebec. After a comparativley brief early experience with Church, Mitchell & Fell, he spent ten years with the Drummond Lumber Company of Forest Dale, Quebec, and another decade with the Burgess Sulphite Fibre Company of Berlin, N. H. Purchasing an interest in the Brompton Pulp and Paper Company, he later became general manager, then president.

Walter P. Bermingham

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., December 20, 1930.—Walter P. Bermingham, 50, of Kansas City, vice president of the Bermingham—Prosser Company, who operate a wholesale paper warehouse and sales organization in this city died Monday in the Michael Reese Hospital, Chicago. He was a victim of heart disease and had been ill for three months.

He was one of the most widely known figures in the paper trade of America, having been associated with that industry practically all his business life. He was a frequent visitor to Kalamazoo and enjoyed a wide acquaintance among the business men of the city.

Born in Kansas City, December 20, 1880, he early became associated with the Bermingham & Seaman Company, New York. He remained with that concern until 1915, when he resigned and was instrumental in the organization of the Bermingham-Prosser Company. He was given the office of vice president and has retained that position. For ten years he was located in New York and for the past five years in Chicago.

He is survived by a widow and seven children, Walter, Jr., Arthur, Edwin, Francis, Mary, Maud, Gertrude and Catherine, also a mother, Mrs. John Bermingham, of Kansas City, and three brothers, Arthur, John L. and Joseph P. Bermingham.

George H. Helvey

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, December 22, 1930.—Burial services were conducted Friday afternoon for George H. Helvey, one of the best known men in mechanical work in the Miami Valley, and the inventor of essential features of the famous Corliss engine. He was a member of the board of directors of the Black-Clawson Company, manufacturers of paper mill machinery. He was a self-made man and began his connection with the Long, Black and Alstatter plant in Hamilton when a youth. During those days the late Frank X. Black and Helvey became staunch friends, Mr. Black showing a kindly interest in the young man. Together they worked on various mechanical problems. The most fascinating thing that attracted their attention was the steam engine. They combined their efforts and built an engine in the basement of Mr. Black's home where it successfully operated a lathe. Early in 1870, however, Helvey went to Philadelphia where he was employed by the Baldwin Automobile Company for two years.

Returning to Hamilton, he was married to Mary E. Heck, daughter of Peter Heck, carriage manufacturer, and became associated with the late George Gray and James W. See in the Niles Tool Works. Later he left for Cincinnati to become identified with the L. Schreiber & Sons Company, but subsequently, in 1880, returned to Hamilton and remained there until his death. He was employed by the Sohn & Rentschler Company and was with it when it became the Hooven, Owens and Rentschler Company, manufacturers of the Corliss engine. The first engine sold by this firm is still in a Hamilton mill to be used in an emergency and is in good shape.

Mr. Helvey was the designer of the Hamilton Corliss engine and held patents on the valve gear which is employed in its construction. When the company was reorganized in 1900, Mr. Helvey retired from it, although he retained his position as a director. A few years later Mr. Helvey made investments in the Black-Clawson Company and was elected to the directorate of this company in which he always evinced the deepest interest and of whose progress he was rightfully proud. He retained his interests in the Hooven, Owens & Rentschler Company and when the General Machinery Corporation was formed, taking it over as well as the Niles Tool Works and other concerns, he kept his interest and continued as a director of the corporation. Mr. Helvey belonged to only one fraternal order—The B. P. O. E. which conducted services. Private rites were held at 306 South D Street, Hamilton. He is survived by his widow and two sons.

Samuel Goldberg

Max Gordon & Son Corporation, dealers in paper stock and cotton waste, at Norwich, Conn., have announced with profound sorrow the death of their vice-president, Samuel Goldberg.

Pacific Coast Mill

. . . will use this Downingtown Adjustable Suction Couch Roll of the overhung, self-supporting type. It is 36" in diameter with 166" drilled face, and is arranged with rear end suction pump connection. This roll is arranged for front end adjustments of deckles, packing strips and angular position of suction box. All these adjustments can be made while running. Another feature is the ports in the end heads, through which the packing strips and deckle heads may be removed without dismantling the roll. For further information, address the Downingtown Manufacturing Co., Downingtown, Pa.

DOWNINGTON
KILBERRY PATENT SUCTION ROLL

New York Trade Jottings

John W. Sutcliffe, European field representative of the Import Committee of the American Paper Industry, returns to Europe aboard the steamer *Lafayette,* sailing from New York on Friday, January 9.

* * *

The Eleventh Annual Meeting of the Pulpwood Department of the American Paper and Pulp Association—formerly the Woodlands Section — will be held during the week of February 16 at the Hotel Pennsylvania, New York.

* * *

Pejepscot Paper Company, Inc., manufacturers of pulp, paper, and lumber, with offices at 42 Broadway, New York, are sending out to the trade an attractive sample booklet of their new line of cloud papers, known as their Bowdoin Cloudlets.

* * *

Luncheons and meetings of the New York Division of the Salesmen's Association of the Paper Industry have been postponed until Tuesday, January 6, when the weekly gatherings will be resumed at George's Restaurant, 507 Lexington Avenue, New York.

* * *

Paper week will open on Monday, February 16 next, at the Hotel Pennsylvania, New York, at which time the American Paper and Pulp Association, the National Paper Trade Association, and affiliated associations and sections, will convene to discuss their common problems.

* * *

A special meeting of the Waste Paper Division of the National Association of Waste Material Dealers, Inc., has been called for Monday, December 29, at 2 p. m. at the Hotel Astor, New York. At this meeting matters of special importance to those engaged in the waste paper industry will be considered and all members are urged to attend.

* * *

Manufacturing operations of the Fuller Lehigh Company are to be transferred from Fullerton, Pa., to the Barberton, Ohio, works of The Babcock & Wilcox Company. Management, Engineering and Sales Departments will move to New York City. No definite date has been set for these changes but it is expected that they will be made early in 1931. The corporate identity of the Fuller Lehigh Company will be maintained, according to an official announcement, but in some cases the personnel will be merged with that of the parent company, The Babcock & Wilcox Company. Sales offices of the two companies are now located close to each other, and the erection and service departments of the two concerns have been combined for some time, so the change in location of Fuller Lehigh manufacturing, sales and engineering represents an important step in coordinating the activities of the two organizations. E. G. Bailey, president of the Fuller Lehigh Company has been elected a vice-president of The Babcock & Wilcox Company.

Henry Greenwood Heads Hudson River Local

FORT EDWARD, N. Y., December 22, 1930—Henry Greenwood was re-elected president of Hudson River Local No. 20, Pulp, Sulphite and Papermakers at the annual election of officers held this week. Other officers chosen were as follows: George Adams, vice-president; Percey Hovey, recording secretary and treasurer; Henry Hart, financial secretary; William Wilkinson, John Lynch and William Bennett, trustees; Henry Orton, inside guard, and Clarence Doty, outside guard. The meeting was presided over by John P. Burke, international president of the organization, who gave an interesting address on conditions now existing in the paper industry of this country and Canada. He had just returned from a tour of the principal mill towns in Canada and claims that business conditions could show improvement.

News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 22, 1930.—The railroads recently filed a petition with the Interstate Commerce Commission seeking to reopen the matter of the decision on the china clay cases. The commission has decided that the rates from Southern production points to New England should be reduced and that the rates on china clay from Boston to the paper mills should be reduced. The present rate from Boston to Fitchburg is 11½ cents and under the commission's formula it should be 9½ cents. Similarly from Boston to Holyoke it is 16½ cents and under the formula 12½ cents. The matter is pending.

Harry L. Goodman, local mill representative of the New York-New England Company of Holyoke, Mass., is showing to the greeting card and specialty trade an etching paper fully as good, if not better than the imported article, made in a variety of weights and sizes. Mr. Goodman is also sending out neat souvenir cardcases, demonstrating Veteran cover, an exceedingly strong paper resembling leather. He is showing silver and gold Velour cover, for printers of greeting cards and announcements and attractive blotters as samples of Jeweldale Aluminum Blotting, both lines products of the New York-New England Company. Other papers which Mr. Goodman is now handling include handsome cover stocks and gift wrappings made by the Royal Card and Paper Comany. George A. Smith, vice-president of the New York-New England Company, recently passed the day with Mr. Goodman and called on others in the trade.

Massey & Wendell, Inc., are adding fine papers to their lines and have already made some sales. Shortly after the New Year they will make an announcement to the trade which will be of interest to the fine paper market. They are still selling a good volume of coarse paper and paper specialties which are the foundation of the Massey & Wendell business.

The annual Christmas party of the D. F. Munroe Company is to be held at the office of the firm Wednesday. There will be a Christmas tree, with gifts, including joke presents. Floyd H. Blackman, secretary, is to impersonate Santa Claus. A feature of the affair, an annual custom, will be the election of two members to the 100 per cent club, composed of men who have been faithful throughout the year and have excelled in their work.

The December Plymouth Products, a house organ of the Plymouth Cordage Company, North Plymouth, Mass., contains illustrations of a few of the individuals using their ropes and twines, of equipment in which they are employed and a note of The Story of the America's Cup, a brochure published by the company and written by Katherine Herreshoff DeWolf. Articles accompany all of the illustrations.

Michigan Superintendents Discuss Pumps

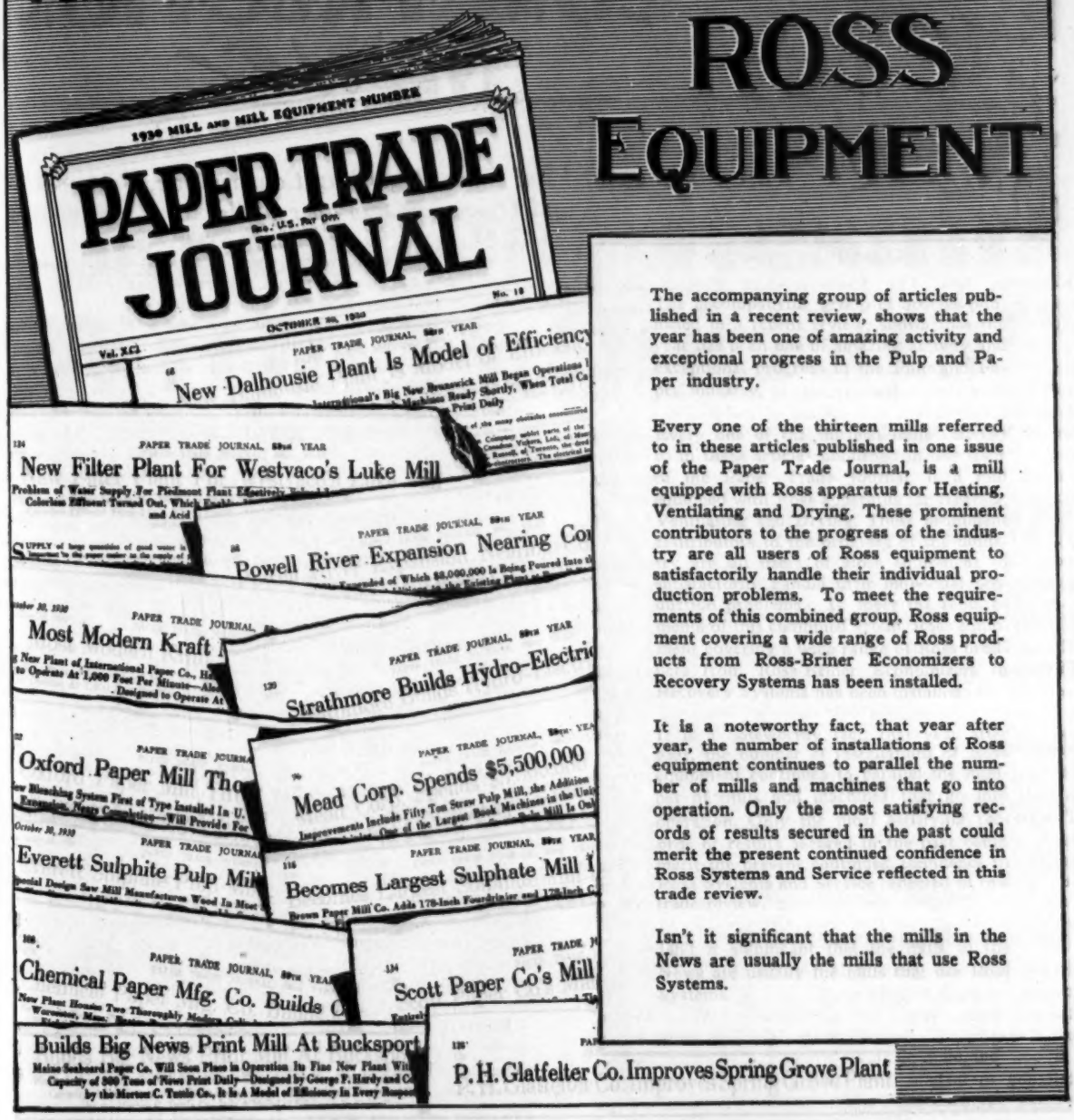
KALAMAZOO, Mich., December 22, 1930.—Steam pumps, their development and what is being done to cut operative costs as effecting paper mills particularly was the topic considered at the Thursday evening session of the Michigan Division of the American Pulp and Paper Mill Superintendents Association, held at the Columbia hotel. The speaker was John Bird, of the Union Steam Pump Company, Battle Creek. At its conclusion the subject was thrown open to the house and a lively round table discussion followed.

John Waldron Corp. Makes Oneida Chuck

The Oneida Chuck is the newest addition to the extensive line of products of the John Waldron Corporation of New Brunswick, N. J., who for over a century have been engaged in the manufacture of paper converting machinery.

The Oneida Chuck is a new roll collar designed for use with paper cores, or rolls without cores. It replaces heavy iron cores with non-returnable paper cores. Mills no longer need to stock cores in all sizes and safe running down of roll to last thickness of paper is now made possible by this new Chuck.

Mills In The News Are All Mills That Use ROSS EQUIPMENT


1930 MILL AND MILL EQUIPMENT NUMBER
PAPER TRADE JOURNAL
New Dalhousie Plant Is Model of Efficiency
New Filter Plant For Westvaco's Luke Mill
Powell River Expansion Nearing Co
Most Modern Kraft
Strathmore Builds Hydro-Electric
Oxford Paper Mill Tho
Mead Corp. Spends $5,500,000
Everett Sulphite Pulp Mil
Becomes Largest Sulphate Mill
Chemical Paper Mfg. Co. Builds
Scott Paper Co's Mill
Builds Big News Print Mill At Bucksport
P. H. Glatfelter Co. Improves Spring Grove Plant

The accompanying group of articles published in a recent review, shows that the year has been one of amazing activity and exceptional progress in the Pulp and Paper industry.

Every one of the thirteen mills referred to in these articles published in one issue of the Paper Trade Journal, is a mill equipped with Ross apparatus for Heating, Ventilating and Drying. These prominent contributors to the progress of the industry are all users of Ross equipment to satisfactorily handle their individual production problems. To meet the requirements of this combined group, Ross equipment covering a wide range of Ross products from Ross-Briner Economizers to Recovery Systems has been installed.

It is a noteworthy fact, that year after year, the number of installations of Ross equipment continues to parallel the number of mills and machines that go into operation. Only the most satisfying records of results secured in the past could merit the present continued confidence in Ross Systems and Service reflected in this trade review.

Isn't it significant that the mills in the News are usually the mills that use Ross Systems.

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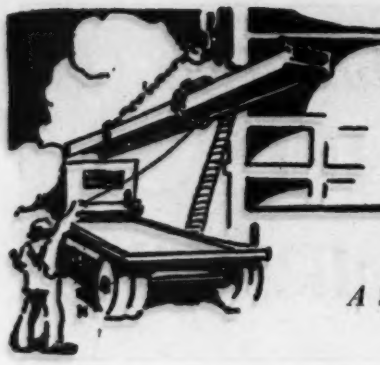

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Kimberly, Wis.—The Kimberly-Clark Corporation, North Commercial street, Neenah, Wis., is taking bids on general contract for a new addition to mill at Kimberly, to be one-story and basement, 58 x 120 feet, designed primarily as an acid plant, reported to cost over $80,000, with equipment. It is expected to place the work under way at an early date. Company engineering department is in charge of the project.

Grand Rapids, Mich.—The Blandin Paper Company, Grand Rapids, has approved plans for a new addition to its mill, with main unit 48 x 300 feet, to be used for expansion in the machine department, reported to cost about $150,000, with equipment. General contract has been awarded to the James Leck Company, 211 South Eleventh Street, Minneapolis, Minn. It is understood that the new building represents a portion of an expansion program to be carried out at the plant, entire project to represent an investment of more than $700,000, including machinery. The Jacobson Engineering Company, Plymouth Building, Minneapolis, is engineer in charge.

Fitchburg, Mass.—Crocker, Burbank & Co., Westminster street, are asking bids on general contract for proposed addition to power plant at paper mill, recently referred to in these columns consisting of one-story unit, 60x80 feet, reported to cost over $100,000, with machinery, instead of a smaller sum, previously noted. It is expected to begin work at an early date. F. J. Sill, East Main street, Westboro, Mass., is engineer.

Tuscaloosa, Ala.—The Gulf States Paper Corporation, Tuscaloosa, is said to be planning the transfer of its plant at Braithwaite, La., to Tuscaloosa, including both pulp and paper mill units, where production will be largely concentrated in the future. The company also contemplates the removal of its bag-manufacturing plant from New Orleans, La., to Tuscaloosa, further centralizing manufacture at the last noted place. It is understood that no increase in present capacity will be made in connection with the change.

Stevens Point, Wis.—The Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has plans under way for a new pumping plant at property at Stevens Point, with installation to include two 50,000-gallon per minute pumping units and auxiliary equipment. A site has been selected on Sawdust street, near Main street. Plant is estimated to cost about $40,000, with machinery. Company engineering department is in charge.

Philadelphia, Pa.—The four-story building of the Atlas Paper Company at Second and Vine streets, was destroyed recently by fire. Structure is used for storage and distributing service, and fire loss will be replaced at an early date. Estimated amount of damage has not been announced.

Longview, Wash.—The Weyerhauser Timber Company, Tacoma, Wash., has placed an order with Rice, Barton & Fales, Inc., Worcester, Mass., for main pulp-making machinery for installation in proposed new sulphite pulp mill at Longview. The equipment will take about six months to manufacture. Company, meantime, will proceed with building erection and carry out other miscellaneous features of mill, which is reported to cost over $200,000, with machinery.

Bucksport, Me.—In connection with new local newsprint mill, recently placed in service, the Main Seaboard Paper Company will secure power over a 110,000-volt transmission line which has been constructed from the new hydroelectric generating plant of the Maine Central Power Company on the Kennebec River at Bingham, Me., about 70 miles distant. The power station is practically ready for operation, and the paper mill will use about one-third of the output of the plant. Both companies are affiliated. Walter S. Wyman is head.

Indianapolis, Ind.—The Capital Paper Company, 225-27 West South street, will increase its line of paper stocks with the addition of Hold-Tite parchment wrapping papers for food products, and will increase distribution facilities to accommodate the added stocks, including branch distributing houses at Terre Haute, Ind., and Columbus, Ohio.

New York, N. Y.—In connection with a proposed new paper mill at a point to be selected in Colorado, the International Paper Company, 220 East 42nd street, New York, will defer any active work until next spring or later. Raw material for the plant is assured by recent acquisition of timber properties in that section. It is understood that the new plant will be located at or near Pueblo, Col., and will represent an investment of more than $2,500,000, with machinery.

Dowington, Pa.—The Dowington Paper Company will install equipment for the elimination of mill waste in the Brandywine River. The apparatus will be used for the operation of a system for this branch of service perfected by J. Gibson McIlvain, president of the company, and is expected to result in cutting now present mill waste about 75 per cent. The Pennsylvania Sanitary Water Board is active in the project through desire to eliminate stream contamination, as is also the Water Department, Wilmington, Del., which uses the Brandywine River as a source of city water supply.

Hartford, Conn.—The Standard Paper Company, 40-42 Market street, has asked bids on general contract for a new three-story building, 50 x 150 feet, to be used for storage and distributing service, as well as company offices, show-room and other operating service. It is reported to cost over $85,000, with equipment. A. Feinberg, 1127 Main Street, Hartford, is architect, in charge. Bids will be received at the last noted office.

Menasha, Wis.—The School Stationers Corporation, Washington street, paper goods, etc., has approved plans for a new factory unit, for which work will be placed under way at once. General contract has been awarded to the New London Construction Company, New London, Wis. It will be one-story and basement, 75 x 160 feet, and is reported to cost in excess of $45,000, with equipment. The structure will be used for increased production. LeVee & Gmeiner, Appleton, Wis., are architects in charge. Harry J. Williams is vice-president and treasurer.

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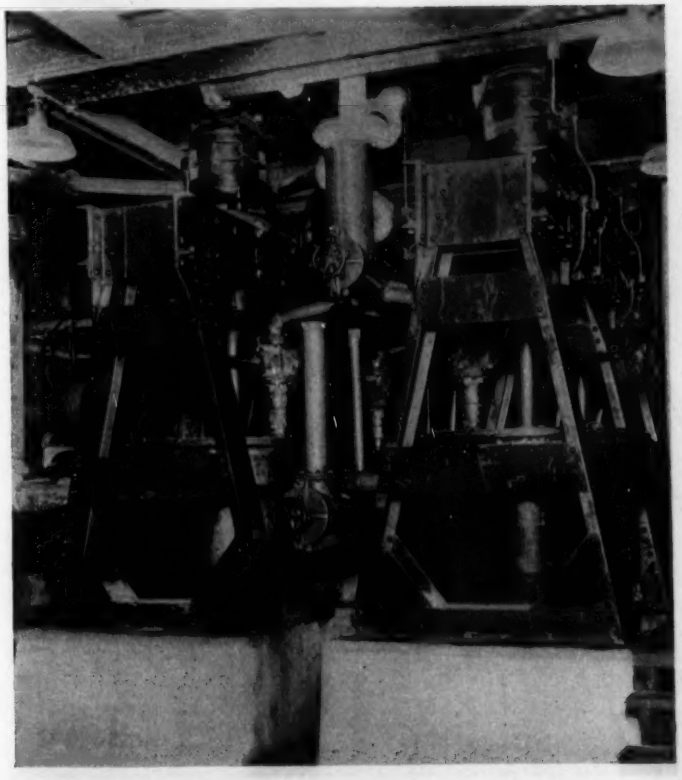

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4524

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by Reginald Trautschold Consulting Engineer

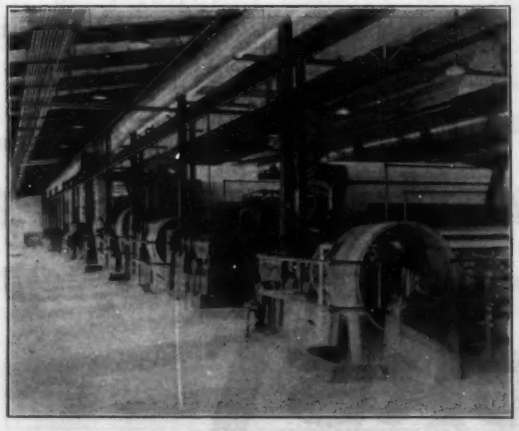
Anti-Friction Bearing Applications[1]

Reduce Power Consumption 1/8 to 1/4

The experience of R. B. McEwan & Son, Whippany, N. J., with anti-friction bearing equipped cylinder moulds on cylinder machines is noteworthy in that it well demonstrates the power saving proclivities of such bearings. These cylinder moulds were formerly turned by ordinary bevel gear drives and when so driven proved sources of more or less trouble. To avoid the burden of the expense imposed, consequently, and the interruptions to productive machine activity, the mill investigated the possibilities of substituting anti-friction for the plain bearings with which the moulds were furnished. At first, one mould was fitted with modern, high-quality anti-friction bearings and it was immediately found that the journal friction had so greatly reduced that the mould could be driven by the felt alone. As a result, the rest of the moulds were similarly equipped and the troublesome cylinder mould drives discarded.

The machine so remodeled has now been in continuous service for several years, effecting very desirable savings and proving far more dependable than formerly. When the changeover was made, the question naturally arose as to whether burdening the felt with the drive duty would so aggravate felt deterioration as to offset the gain in power conservation, but four or five years experience has shown the fear unwarranted. In fact, the felt life has actually been increased, due to the more uniform and constant tension on the felt. At no time is this tension accentuated, for the starting friction is only about a tenth of what it was when the moulds were supported on sleeve type bearings.

[1] For previous discussions on anti-friction bearings see PAPER TRADE JOURNAL, Aug. 4, 1927, Mar. 8, 1928, Oct. 25, 1928 and Oct. 17, 1929.



Courtesy: S. K. F. Industries, Inc.

FIG. 1

Modern fourdrinier equipped with anti-friction bearing mounted drives.

Courtesy: Hyatt Roller Bearing Co.

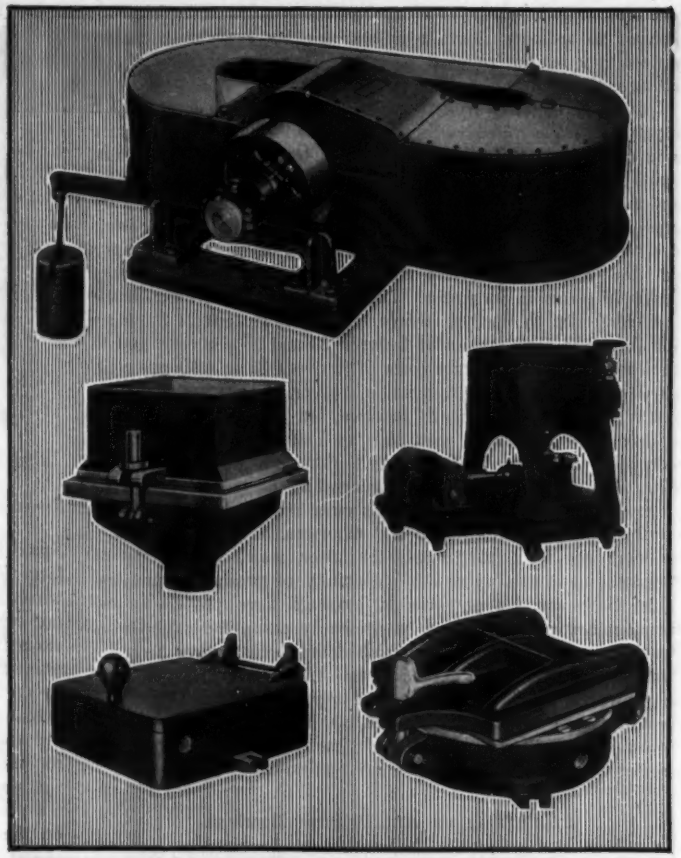
FIG. 2

Spiral gear machine drives of 234-inch machine mounted on anti-friction bearings

Not only has the felt life been prolonged, but quite obviously the power demands have been greatly reduced, the individual cylinder mould drives having been done away with. Lubrication costs have also been drastically cut and machine dependability much improved, shutdowns for bearing repairs having become practically unknown.

Such experience is far from being uncommon and it becomes daily more obvious that virtually every bearing in the pulp and paper mill could be profitably fitted with modern anti-friction journals. Therefore, the reason that this has not already become general can only be a question of the expense entailed and this has been shown time after time to be the poorest kind of an excuse. In an industry where any interruption whatever to continuous productive activity is as costly as it is in paper making, the installation of even the most expensive of modern anti-friction bearings is well warranted. In fact, the bearing manufacturer who has probably done most to combat costly frictional losses in the mills of the industry claims to make the most expensive bearing and despite this apparent handicap appears to have accomplished more in the way of insuring continuity of operation of mill equipment than any one other specialist in bearing construction.

This is not to be interpreted as advocating unnecessary extravagance in bearing refinements, but rather as signifying that the opportunities of effecting worthwhile economies through the employment of high grade anti-friction bearings are so pronounced that the question of bearing equipment should command far greater consideration than is ordinarily accorded to it. It does not suffice simply to hold an idea that anti-friction bearings are



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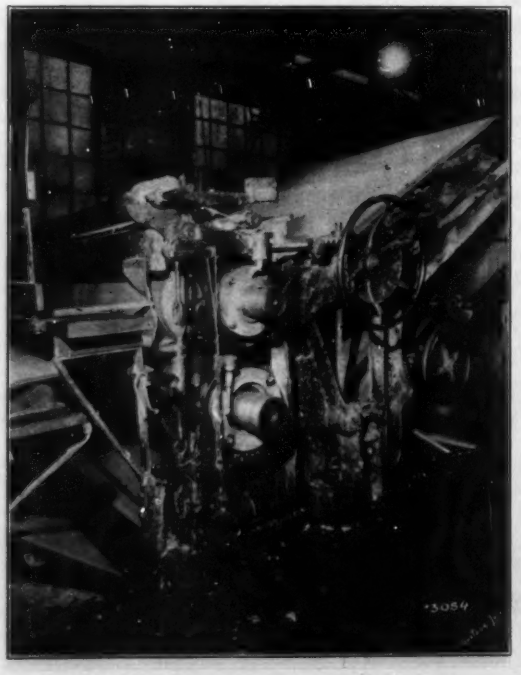
superior to ordinary sleeve type bearings, but some appreciation is necessary of the relative resistances imposed by sliding and rolling actions.

This is particularly true in regard to all equipment employed in pulp and paper mill services, equipment which for the most part is in continuous operation from week end to week end, day and night. The cost limitations which may be imposed on the bearing equipment for apparatus less continuously operated are in very large measure non-existant. The high duty anti-friction bearing is rarely too costly for the productive equipment of the paper mill and reliance upon less efficient bearings is almost always a grievous error in judgment. The best of the anti-friction bearings, compared to the best sleeve type bearings, effects a reduction in power consumption of between 20 and 25 per cent. and in lubrication and maintenance costs of between 80 and 90 per cent. These measures of improvement, moreover, do not represent extremes, as they are frequently bettered, but are means which may be used with reasonable assurance as factors in computing the economies to be expected from anti-friction bearing applications. With twenty-four hour operation general in the industry, the item of power savings naturally assumes quite respectable proportions, but the savings in lubrication and maintenance costs are usually far more important, particularly the latter, which is an index of equipment dependability and of continuity of productive activity.

Just how valuable anti-friction bearings have proved in reducing mill costs can readily be shown by citing the experiences of almost any of the mills in which detailed costs have been recorded over a more or less extended period. In presenting such statistics, however, it will be well to select only installations which have been in service a number of years and to feature what may be termed special benefits as well as the economies customarilly associated with anti-friction bearing applications.

Capitalizing on Anti-Friction Bearings

An excellent example of special as well as customary benefits derived from anti-friction bearing applications is the experience of the Kimberly-Clark Corporation at its Niagara Falls plant.



Courtesy: Hyatt Roller Bearing Co.

FIG. 3

Press rolls of paper machine mounted on anti-friction bearings at the plant of the A. P. W. Paper Co. at Albany, N. Y.

Courtesy: Hyatt Roller Bearing Co.

FIG. 4

Tissue machine of the A. P. W. Paper Co. completely equipped with anti-friction bearings

Some years ago, considerable trouble developed on one of the large 198-inch paper machines by the wrinkling of the Fourdrinier wire. Upon investigation, it was found that the carrying rolls did not turn sufficiently readily in their plain babbitted bearings, an excessive pull on the wire being necessary to drive the rolls. So much so, in fact, that occasionally there was considerable slip between the wire and the rolls.

In order to overcome the wrinkling trouble, four of the carrying rolls were fitted with high grade anti-friction bearings and the trouble was immediately remedied. Subsequently, the breast roll was placed on anti-friction bearings, also the dandy roll, and the use of anti-friction bearings extended throughout the plant, on the strength of the economies realized from the original installation.

A remedy for the trouble with wrinkled wire was the chief benefit secured from the original installation, of course, but in addition to this quite substantial expense savings were effected, savings which may reasonably be expected in almost any case of substituting high grade anti-friction bearings for sleeve type bearings for the carrying rolls on a Fourdrinier. The most important of these was a reduction in wire replacement costs, including material and labor, of 10 cents per ton of paper produced. On the first machine equipped with anti-friction bearings for the carrying rolls at the Niagara Falls plant, this represented an annual saving of close to $2,000.00.

Lubrication costs were also sharply cut, being for the two 198-inch Fourdriniers operated at the plant a matter of almost $500.00 a year, or a cut of 92 per cent. in labor cost and of 95 per cent. in cost of lubricant. Maintenance and repair costs on the anti-friction bearings for the carrying rolls were also much lower than like expenses before the changeover, an important gain, since repairs during the working week are necessarily very costly. Marked reduction in power demands were also effected, the exact value of which are unknown, lacking accurate measure of the demands prior to the installation of the anti-friction bearings.

The five cylinders of the 82-inch box board machine at the mill of the Natick Box & Board Company, Natick, Mass., several of the fixed felt rolls and one of the felt stretch rolls, all fitted with anti-friction bearings some seven years ago have likewise effected quite respectable savings, reducing power consumption and increasing the average life of the wires some 66-2/3 per cent. Lubrication costs have been cut 91 per cent., a net annual saving of over $150.00 in oiling labor being effected and the yearly bill for lubricants cut $15.00 or $16.00. Increasing the average life of the wires from six to ten months represents a saving in machine upkeep of about $475.00 a year. That these improvements are permanent is shown by the facts that several years of continuous

There was a time when paper makers looked askance at the mere mention of Vertical Dryers.

Today the dryer section is arranged in vertical order as a matter of course whenever a new machine is erected, or an increase in drying capacity becomes necessary on others. The advantages accruing are no longer disregarded.

Perhaps you would be interested in receiving a list of the mills now operating their dryers in vertical order!

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operation failed to give indication of any bearing wear and that a very appreciable decrease in power demand was still apparent.

The 156-inch Fourdrinier installed at the Fitchburg Paper Company plant some seven or eight years ago was pretty completely equipped with high grade, modern anti-friction bearings, except for the press and drier rolls, and gave such excellent satisfaction that the other machines of the plant were promptly modernized in respect to bearing equipment. As compared with known costs with machines equipped with ordinary sleeve type bearings, the Fourdrinier with over 300 individual anti-friction bearings showed a saving in lubrication costs of about $1,275.00 a year, a reduction of better than 85 per cent. Maintenance expenses were reduced almost as much, a matter of some 90 per cent. The average life of the wires was a matter of 21 days, or 5 days longer than the wires on a similar machine equipped with plain bronze bushed bearings. In dollars and cents, this latter economy is equivalent to a net annual saving of considerably over $2,000.00.

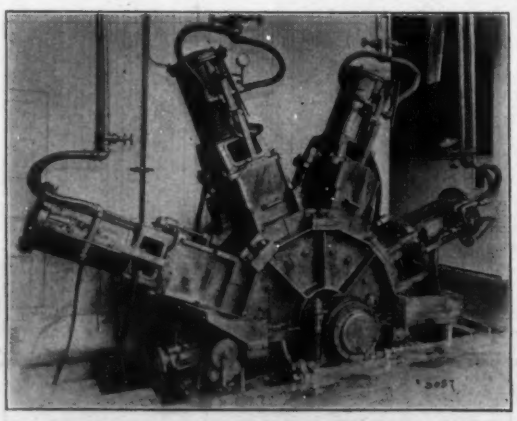
Comparing the power demands of similar anti-friction and plain bearing machines, the more efficient machine effects a net saving of at least 20 per cent., or between $5,000.00 and $6,000.00 a year. All told, the obvious and measurable economies effected by the comprehensive anti-friction bearing refinement totals to about $10,000.00 a year. These cover simply the tangible savings effected and take no stock of the intangible betterments in the way of greater machine dependability, smoother machine operation, etc., which in the long run may effect economies of even far greater value.

Anti-Friction Bearing Selection Highly Important

Economies of this order are not confined exclusively, however, to substitutions of anti-friction for plain sleeve type bearings. There may be a good deal in the selection of the anti-friction bearings. This is forcibly brought out in the experience of the Robert Gair Company at its Montville, Conn., plant. This mill, incidentally, was one of the very first to experiment with anti-friction bearings for the cylinder moulds of paper machines.

Some fourteen or fifteen years ago, two large cylinder machines were equipped with crude, as judged by present day standards, anti-friction bearings on the cylinder moulds and after five or six years of operation, deemed more or less satisfactory because of unfamiliarity with better results, troubles with the bearings developed. As a result, another type of anti-friction bearings was substituted. These more refined bearings proved so superior that they were promptly adopted for the cylinder moulds of another machine and were soon supplied for the couch rolls of the two machines.

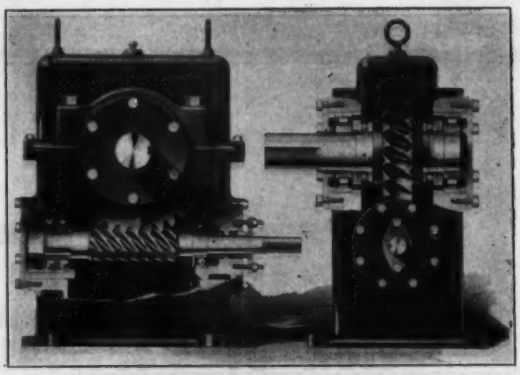
After three years of almost continuous service, the new bearings showed absolutely no signs of wear and had not entailed a single repair. Production obtained per felt and per wire was appreciably increased and it proved entirely feasible to increase the speed of the machines 80 per cent. Altogther, the savings effected by the new bearings on the two machines totaled to close to $4,000.00.



Courtesy: Hyatt Roller Bearing Co.

FIG. 5

Four pocket wood grinder running on anti-friction bearings



Courtesy: Norma-Hoffman Bearing Corp.

FIG. 6

Sectional view of worm gear speed reducer equipped with anti-friction bearings

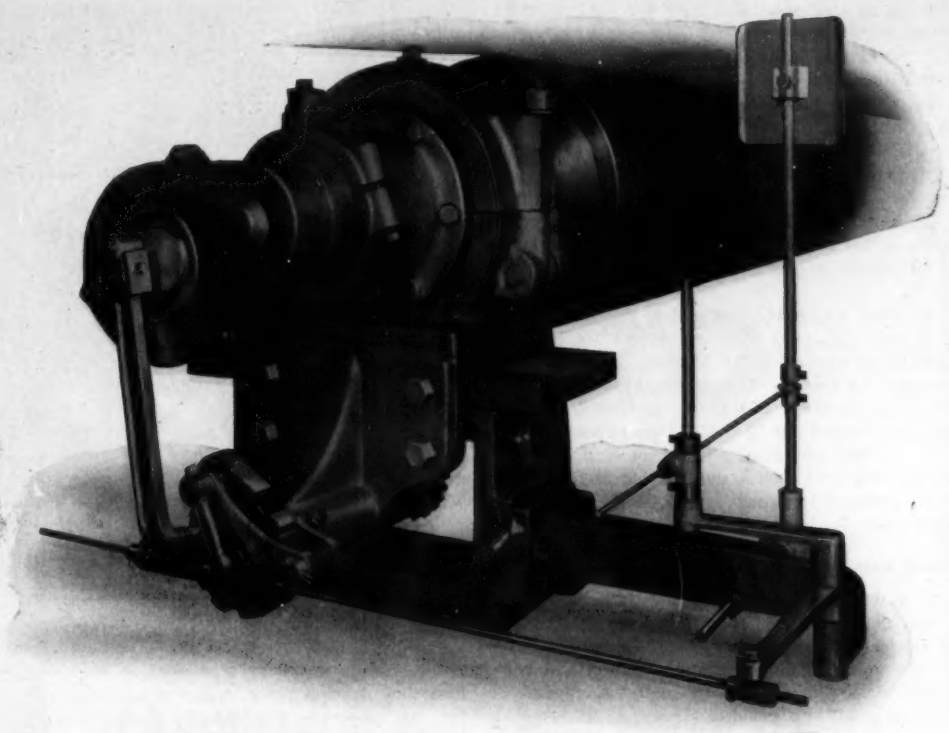
While an itemization of this substantial saving may not be quite fair to the respective varieties of bearings, if interpreted as a reflection upon the type which was displaced, the individual expense items are of interest, nevertheless, as evidence of the advance made in anti-friction bearing constructions for paper mill services and also as an indication of the care which should be exercised in fitting the bearing to the service. The saving in felt costs per machine per year, for example, exceeded $1,700.00 and the yearly saving in the wire for cylinder moulds expense per machine was close to $280.00. Savings in lubricants and in oiling labor charges average in either case something like $5.00 a year. In addition, there was an increase in production per felt of approximately 15 per cent. traceable to the more efficient anti-friction bearing construction. All of these economies, in fact, are properly credited to the more suitable type of anti-friction bearing.

Anti-Friction Bearing Equipped Jordans

Another form of paper mill equipment for which anti-friction bearing constructions have proved highly desirable is the Jordan engine and in this connection the experience of the Flambeau Paper Company, Park Falls, Wis., is most pertinent. Some five years ago, this mill decided to investigate the claims made for Jordans with such refinements. To do so impartially, two Jordans of similar size and construction, except that one was fully equipped with anti-friction bearings and the other with plain babbitted bearings, were operated under identical heads, power being supplied to the two machines by individual motors of the same size and characteristics. So far as possible, the service conditions for the two Jordans were kept identical and after eighteen months of operation the Jordan with anti-friction bearings very conclusively showed marked superiority on several counts.

The lubrication and inspection of the Jordan with anti-friction bearings was much the simpler and less costly, the balance sheet favoring the more efficient machine by a matter of more than $70.00 a year. In respect to the filling and bearing expense, the Jordan with plain bearings imposed a burden during the eighteen months of over $400.00, while the more modern Jordan required no repairs whatever during the same period. However, as the filling would eventually wear, a generous allowance to cover chipping expenses and in time filling replacement can still be made and the anti-friction bearing equipped machine show a yearly saving of about $100.00.

Protection of the bearings of the Jordan with the plain journals necessitated the use of some 8,000 gallons of cooling water



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With the wide, fast-running paper machines of today, control of the wire is not as simple as it used to be, and the penalty for erratic movement is heavier.

The Wire Guide here shown is designed to meet the severest present-day conditions. Power for skewing the guide roll is derived from the rotation of the roll itself. The control mechanism is set in motion by slight movements of the light fender brushing against the edge of the wire. This fender controls a two-way pawl which moves the roll bearing in one or the other direction.

The pawl action is extremely sensitive to lateral movement of the wire. Reducing gears are used to prevent hunting with high-speed machines. The guide roll journals are ball bearing type.

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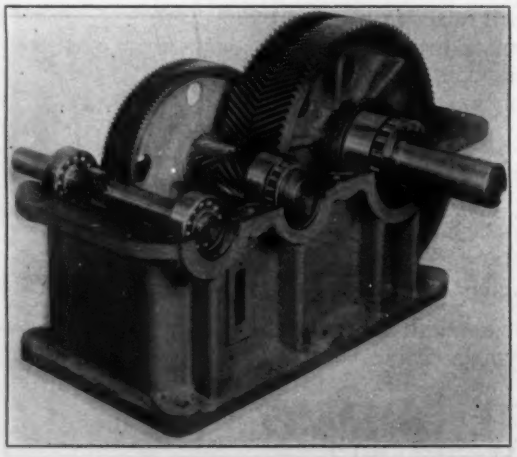
per day, while none at all was required for the Jordan fitted with anti-friction bearings. This is a very good indication of the relative efficiencies of the two varieties of bearings and incidentally the less efficient machine is burdened with an annual expense of some $25.00, a charge which the machine with anti-friction bearings escapes. A reflection of the frictional power loss imposing this tax, moreover, is shown in the respective power consumptions of the two Jordans, that of the more efficient machine being some 17 per cent. less than that of the Jordan with plain bearings. Placing a value of a cent per kilowatt-hour upon the power saved makes the operation of the machine with plain bearings the more costly, in respect to the item of power, by an amount in excess of $750.00 a year.

A summation of these expenses, shows that the net annual, operating costs of the respective Jordans differs by between $900.00 and $1,000.00, in favor of the machine equipped with anti-friction bearings. Incidentally, the refinement of fitting the Jordan with anti-friction bearings added some $800.00 to its cost, a differential which was wiped out by the savings effected in less than a year. Or, if the additional investment and carrying charges be pro-rated over even such a short period as five years, the savings realized represent a yearly return on the investment of close to 100 per cent.

Fundamentals of Bearing Constructions

So very general is the superiority of the anti-friction bearing and so very marked that, obviously, there are basic reasons for the much higher efficiency developed in service, fundamentals of bearing constructions which should command attention and consideration for every bearing throughout the mill. An appreciation of these fundamentals, furthermore, serves as an essential guide when investigating the justification of the additional investment entailed for the adoption of such bearings.

Whatever the type of bearing, the first essential is a separation of the stationary element, the journal box or bearing, and the rotating element, the journal or bearing part of the shaft. In the case of the plain bearing, this separation is effected by a film of lubricant and if this breaks down, through inadequate lubricant supply, improper quality of lubricant or through excess pressure, destructive wear of journal and bearing is unavoidable. In fact, the abrasive wear is instrumental in a measure for the continuance of shaft rotation, the minute particles sheared from journal and bearing surfaces serving to separate the rotating and stationary elements. These minute pieces of metal are not of such form, however, as to discharge the separation duty satisfactorily or for any length of time. They are jagged and rough and the frictional heat they develop either causes the bearing to "freeze" or wear becomes so pronounced that the bearing is quickly destroyed.



Courtesy: Hyatt Roller Bearing Co.

FIG. 7
Herringbone speed reducer gears carried on two varieties of anti-friction bearings

Courtesy: Stephens-Adamson Mfg. Co.

FIG. 8
Belt conveyor pulley mounted on anti-friction bearings

In the case of anti-friction bearings, the separation of the rotating and stationary elements is effected by the highly finished metal balls or rollers, which are proportioned and formed so as to develop pure rolling action so far as possible and to minimize the destructive sliding action. Such bearings have to be lubricated, of course, but the lubrication serves more as a protective agent than as an active agent in the separation of the rotating and stationary elements. That is, the anti-friction bearing will continue to function satisfactorily just as long as the active metallic surfaces, those of the inner and outer races and the balls or rollers, are not damaged. The lubricant plays an active part in the operation of the bearing only in so far as it furnishes a separating film between the balls of rollers and the retainer. Its other functions are to protect the highly polished surfaces of balls or rollers and their retaining raceways and to assist in preventing the entrance into the bearing of dirt and foreign matter.

In making a selection of anti-friction bearings for any specific service in the mill, there are three more or less distinct problems which have to be taken into account: 1st., the selection of the proper quality, type and size of bearing; 2nd., the design of bearing mounting which will permit the manipulations necessary for changes in wires and felts or for the misalignments which may occur to a greater or less extent almost anywhere where bearings are employed; and 3rd., the design of an enclosure to protect the bearing and to retain the lubricant. At the present time, whatever may have been the situation back in 1916 when the first breast roll of a newsprint machine was fitted with anti-friction bearings, there are standard lines of quality anti-friction bearings on the market effectively meeting all the requirements imposed by these various problems.

Applications to Machines and to Mill Equipment

In view of the very marked and almost universal success of applications of anti-friction bearings to paper machines, when suitable selection of bearing has been made, it is of interest to note how general has become the use of these money saving refinements and to show the trend in this direction, if any exists. Unquestionably, there is a movement toward the more general use of anti-friction bearings on paper machines, but also there certainly appears to be little agreement on the part of the build-

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ers of the machines as to the specific applications which should be made.

In the case of twenty-two Fourdrinier machines built by various paper machine builders of national reputation comparatively recently, the lack of any standardization in respect to applications of anti-friction bearings is very apparent. All these particular machines are fitted with some anti-friction bearings, it is true, but for almost as many specific applications as there are machines. The most general application is that for the breast rolls, ten machines being so equipped and in half these cases no other applications are made. In one instance only are the table rolls equipped with anti-friction bearings and the wire rolls in only three cases. In one of the latter instances, the press and rewind rolls of the machine are also fitted with anti-friction bearings. Five of the machines have their couch rolls running on anti-friction bearings, but on three of these no other anti-friction bearing applications are made. The other two machines with couch rolls on anti-friction bearings have their suction press rolls similarly mounted.

Four machines have their press felt, drier felt and winder rolls, as well as the machine drive, mounted on anti-friction bearings in this particular group of twenty-two machines, about the most comprehensive of the applications. Another of the more completely equipped machines has its breast, wire, press and rewind rolls on anti-friction bearings. One machine has its felt driers on anti-friction bearings only, one simply its drive and another only its winder rolls. The main driers in no case are fitted with anti-friction bearings, despite the fact that efficient bearings for just such application are procurable.

In the case of nine cylinder machines, also built by various manufacturers of standing, more standardization is apparent, for seven of the nine machines have their cylinder moulds mounted on anti-friction bearings and two of these seven machines have their calender rolls also on such bearings. In the cases of the other two machines, one has only its primary press rolls on anti-friction bearings and the other only its secondary press rolls. In no case are the couch and felt rolls so mounted, nor the driers or drives.

Of course, any such cursory survey fails to be conclusive, for other groups of paper machines would probably show a very different assortment of applications, but the survey does show that there is surprisingly little agreement as to the extent to which or how anti-friction bearings should be used on paper machines. Each of the specific applications was doubtless made at the instigation of the paper mill in which the machine was installed and, unquestionably, for some very definite reason. Also, it is highly probable that each one of the applications has proved profitable, effecting some worthwhile monetary saving. Real progress in ridding the paper machine, Fourdrinier or cylinder, of heavy friction loss burdens and high maintenance expenses cannot be made, however, until all these various reasons are investigated and properly coordinated and valued, so enabling some approved standardization to be established.

In general, the application of anti-friction bearings improves machine reliability, reduces friction losses, increases the life of wires and felts, smooths operation, elevates machine speeds, lowers starting torque and protects the journals effectively. These same advantages pertain for the most part to other of the numerous mill applications of anti-friction bearings, among which might be mentioned those to wood grinders, drier rolls and calender bottom roll mountings.

The use of anti-friction bearings for power units, drives and lineshafts is, of course, of a much more general nature in that the peculiarities of pulp and paper making do not dominate the situation in such a pronounced manner. This does not signify that the use of these refined bearings in these more familiar applications is any less important, but simply that the problems presented are little different from those common to the mills and factories of any other industry faced with problems in the transmission of mechanical power.

So far as the advisability of fitting electric generators and motors with anti-friction bearings is concerned, the advantages of so doing are probably not as pronounced as in most other applications. In regard to the conservation of power through the curtailment of journal friction, there is considerable difference of opinion. The rotor of the motor or generator has a tendency to float in the magnetic field of the stator and this unquestionably relieves the bearings of some of their duty. The bearings serve more as guides, perhaps, than as supports and in this way a good share of the journal friction which would otherwise be developed is avoided. This would seem to be confirmed by the fact that many tests made on motors with and without anti-friction bearings under conditions of no load indicate no appreciable difference in friction losses when the motors are operated at moderate or high speeds. When the motor is heavily loaded, conditions may be quite different, the pull of the load tending to draw the rotor out of symmetry with the stator and throwing a greater strain on the bearings.

Such result would seem to be indicated by the numerous experiences on record where the replacement of the plain bearings of a motor with anti-friction bearings has apparently stimulated the power output of the motor. In one such case, the changeover in bearings was made because the motor required new bearings in any event, the plain bearings with which the motor had been supplied having become badly worn under the heavy service to which the motor had been subjected. In fact, it was anticipated that a larger motor would be required, but when the bearing changeover was made this was found unnecessary as the motor handled the stiff load entirely satisfactorily.

In respect to the other advantages of anti-friction bearings, their superiority in respect to lubrication, their greater compactness, reliability and general freedom from maintenance and repair expense burdens, however, there is no question but that they are as desirable for motor bearings as for other bearing applications, and just as profitable. That this is general concensus of opinion is pretty conclusively indicated by the fact than one prominent manufacturer of both anti-friction and plain bearing motors found that his sales in the short span of thirteen years shifted from 5 per cent. anti-friction bearing motors and 95 per cent. plain bearing motors to 75 per cent. anti-friction bearing motors and 25 per cent. plain bearing motors.

In connection with anti-friction bearing applications to machine drives, it is only necessary to draw attention to the fact that the big majority of modern speed reducer units are now regularly equipped with such bearings. The truly remarkably high mechanical efficiency of these modern transmissions can be properly credited, in fact, partly to their employment of anti-friction bearings. Likewise, in the matter of the application of anti-friction bearings to line—and countershafts, the advisability of so doing is quite obvious. A saving of 70 per cent. in power consumption, as in the case of the Robertson Paper Box Company, Mountville, Conn., featured in the discussion of October 17th, 1929, is not at all uncommon.

Nothing not already familiar to any mill giving proper heed to its production costs has been advanced in the present discussion. There would appear no need for doing so, since there is no lack of evidence that anti-friction bearing applications sensibly planned almost invariably yield handsome returns. An effort has been made, however, to show that the progress made in adopting anti-friction bearings to paper mill equipment during the past fifteen years has been neither as general nor as standardized as it should have been.

Of all the opportunities afforded the pulp and paper mills to reduce their production costs, the general adoption of suitable anti-friction bearings would seem to be the most obvious. The application to almost any machine of transmission can be made in any mill with virtual assurance that the venture will prove profitable. In fact, every plain bearing in power plant and mill affords an opportunity of effecting some reduction in production costs.

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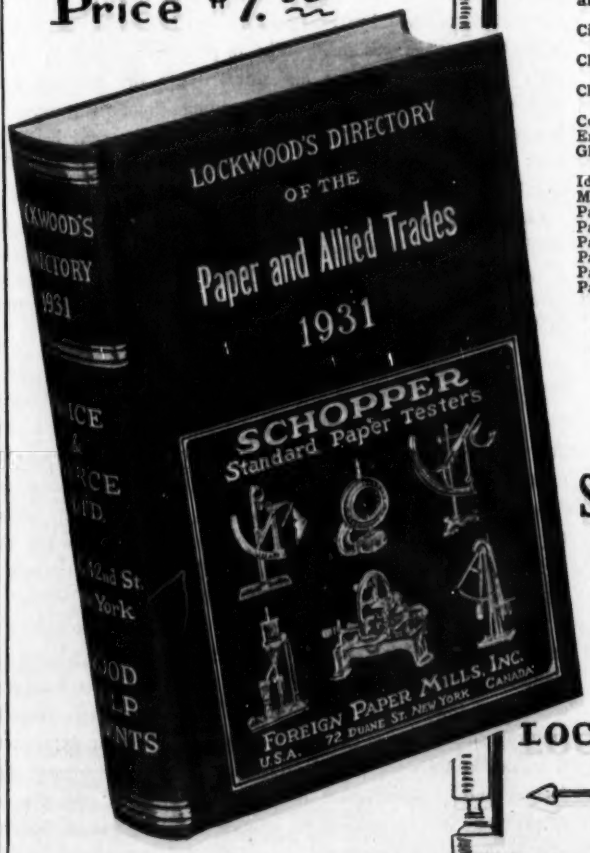

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COMING EVENTS

American Paper and Pulp Association, fifty-fourth Convention and Meeting. Pennsylvania Hotel, February 16-19. Annual Meeting, Thursday, February 19. Annual Banquet, Grand Ball Room, Thursday, February 19.

National Paper Trade Association of the United States. Convention, Pennsylvania Hotel, February 16-18. Luncheon, Wednesday, February 18.

Technical Association of the Pulp and Paper Industry. Convention, Pennsylvania Hotel, February 17-19. Luncheon, Thursday, February 19.

Salesmen's Association of the Paper Industry. Annual Meeting, Pennsylvania Hotel, Tuesday, February 17. Luncheon, Tuesday, February 17.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet, Hotel Commodore, Tuesday, February 17.

PAPER AND WOOD PULP IN 1930

According to reports to the Statistical Department of the American Paper and Pulp Association from member mills and cooperating organizations, it is estimated that the production of paper for the year of 1930 will total 9,962,499 tons as compared with 10,984,000 tons for 1929, a decrease of approximately 9 per cent. It is estimated that the consumption of paper made in the United States will probably be approximately 10 per cent below the level of 1929.

The paper industry is more fortunate than many other major ndustries in that it is not so sharply affected by the sharp upward and downward movements in cyclical movements of general business. Fluctuations in the operations in the paper industry are of a more moderate nature than is the case in most other industries. While general industry started its downward trend late in 1929, the paper industry did not begin to run below the level of 1929 until about March 1930. Individual sections of the paper industry, however, respond differently to the same conditions and therefore, some sections felt the effect of the depression earlier than others.

In most instances throughout the year, production and demand have been fairly well balanced and in general, stocks of paper have not shown sharp increases, as did many other industries.

The employment situation in the paper industry also held up better than a great many other industries. Employment did not fall below the level of 1929 until after the first quarter of the year and then the decrease below that level was moderate.

An estimate of 1930 production as compared with 1929 production of the various grades of paper follows. This estimate for the year of 1930 is based on identical mill reports to the American Paper and Pulp Association for the first 10 months of 1930:—

UNITED STATES ESTIMATED PAPER PRODUCTION
(Tons: 2,000 lbs.)

Grade	1929	1930	% change
Board	4,500,000	4,122,000	— 8.4
Book, Uncoated	1,440,000	1,303,200	— 9.5
Newsprint	1,392,000	1,308,480	— 6.0
Wrapping and Bag	1,649,000	1,466,067	—11.7
Writing	585,000	520,650	—11.0
Cover	28,500	25,365	—11.0
Tissue	375,000	367,500	— 2.0
TOTAL	*10,894,000	9,962,488	— 9.3

*Includes "All Other Paper"

The total production of wood pulp in the United States was estimated to be 5 per cent below that of 1929 and the total imports for the calendar year of 1930 were estimated to be 4 per cent below the level of the previous year. The imports of groundwood and bleached kraft increased. In the matter of bleached kraft, the tonnage was small. The 16 per cent increase in the imports of groundwood was due primarily to the drought which existed in the United States curtailing domestic production. Imports of sulphite pulp will probably be 6 per cent below the level of 1929 while kraft pulp imports will probably be 12 per cent below the level of 1929.

The general business outlook for 1931, according to leading economists is for an improvement in business conditions. If the improvement in general business conditions materializes as is anticipated, the paper industry will of course, reflect this improvement in its operation.

EXTENSIVE REFORESTATION WORK

In the annual report of the State Conservation Department of New York to be submitted to the Legislature the progress made during the first year on the state's extensive reforestation program, which calls for planting of forests on 1,000,000 acres of abandoned farm lands within the next fifteen years, will be unfolded. This is the largest reforestation movement ever undertaken by any state and if carried to completion will add $500,000,000 to its wealth through an expenditure of only $200,000,000.

Since the establishment of the Hewitt Law over 40,000 acres have been acquired and all land to which title has been approved was planted. In connection with plans two new nurseries have been established for growing forest trees and another to grow trees for highway plantings was also started. During the year experiments were carried on with tree planting machinery which proved satisfactory and on land where this equipment can be used the cost of plantings will be reduced to between one-third and one-half the cost of the previous methods.

Relative to the enlarged program an amendment to the state constitution was passed by the legislature of 1930 and it will probably be passed again the coming year and submitted to the voters. The main objective of this amendment is to permit the purchase of idle land adapted for reforestation in any county, including forest preserve counties, and the cutting of forests so planted when

they mature. The passage of this amendment will allow the establishment of funds sufficient to finance the enlarged program and to make it possible to utilize abandoned farm lands in the forest preserve counties outside the Adirondack and Catskill Parks for the establishment of production forests pursuant to the program. The forest preserve includes lands owned by the state in the counties of Clinton, Delaware, Essex, Franklin, Fulton, Lewis, Herkimer, Oneida, Saratoga, Warren, Washington, Ulster and Sullivan. Within the Adirondack and Catskill preserves the state now owns over 2,000,000 acres and is acquiring additional lands from time to time.

Blandin Paper Co. to Increase Capacity

The capacity of the news print mill of the Blandin Paper Company at Grand Rapids, Minn., is to be increased. A new paper machine is to be installed. This necessitates an addition to the mill and important construction activity for the coming year. The reason for expansion is the anticipated increase in the use of paper by those having contracts at the present time and the additional capacity that is needed to care for new contracts, now executed or anticipated.

The mill now has a capacity of about 80 tons a day. This is produced from two paper making machines, one of about 50 tons capacity and the other of about 30. The present plan is to put out of use the smaller machine, which is not of the highest efficiency; to slow down the larger machine, which has been operated beyond its capacity; and to add a new machine of about 80 tons capacity. The capacity of the mill will then be about 120 tons a day. The new machine is to be built by the Beloit Manufacturing Company, of Beloit, Wis.

To house this new machine an addition to the plant is necessary. This will be made to the south and east of the present structure, constructed partly over the river. It will be of modern fireproof construction. The machine room will be 50 feet wide and 318 feet in length, and the finishing room will be 83 feet by 128 feet.

The new machine will require considerable additional power. How this will be secured is not yet definitely settled. Current may be purchased from commercial power companies or it may be developed by steam locally. If the latter should be the case, an addition to the paper company power plant will be necessary.

The Blandin Paper Company has sufficient holdings of spruce and pulpwood in Minnesota to warrant this expansion. It is furthermore anticipated that natural growth of timber in the large area surrounding the mill will produce supplies that cannot now be definitely measured.

To carry out this program of expansion will naturally require a considerable part of the coming year. The intention of the management is to have the machine in operation not later than July 1, 1931.

Plans for the new additions are being prepared by the Jacobson Engineering Company, pulp and paper mill engineers, of Minneapolis, Minn.

Finland's Pulp and Paper Exports Decrease

WASHINGTON, D. C., December 24, 1930.—Exports of pulp and and paper from Finland during the month of October were in nearly all instances under those for the corresponding month of last year, mechancial pulp shipments having declined by 18 per cent, sulphite shipments by 6 per cent, news print by 6 per cent, and other classes of paper by 3 per cent. During the ten months ended October 31 mechanical pulp shipments were about on a level with those for the same period of 1929, chemical pulp shipments show a loss of a little over 1 per cent, news print shipments increased by nearly 10 per cent, and other paper shipments increased by 3 per cent.

Canada Affected by Russian Competition

[FROM OUR REGULAR CORRESPONDENT]

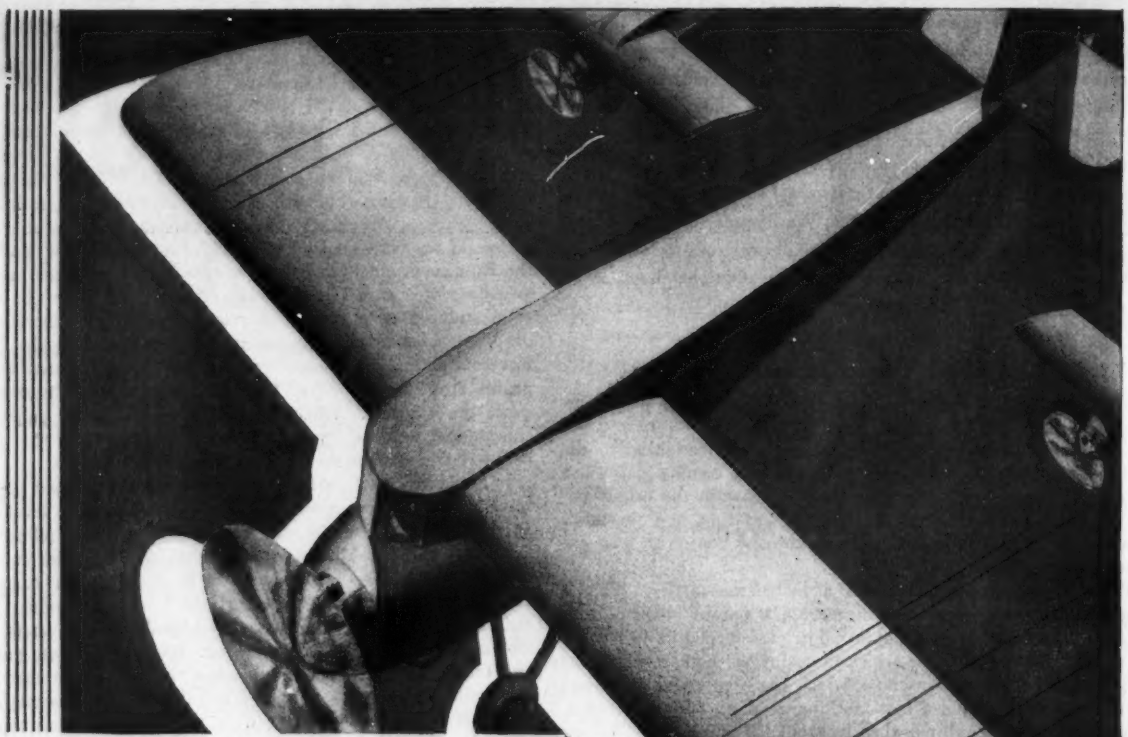
OGDENSBURG, N. Y., December 22, 1930—The large movement of imported pulpwood to this country recently has had a disastrous effect on the Canadian industry which has reduced prices to the extreme limit in an effort to meet foreign competition and it is now claimed that approximately 40,000 residents in Northern Quebec are faced with the possibility of losing their main source of livelihood. In past years the great portion of the pulpwood has been shipped to mills in Northern New York until the Russian product started to be sent here at less cost and then an effort was made by Canadian interests to have the freight rates reduced as a means of retaining their customers. Many of these Canadians have taken farm sections in the Quebec forests planning to establish themselves in agriculture with the profits from the wood cut but Russia haulage has been able to quote lower prices. About 125,000 cords of spruce pulpwood is cut annually in the Quebec territory and much of it in years past has found a market in Northern New York.

It is claimed that jobbers ceased buying the Quebec pulpwood some time ago when their prices failed to meet the level of the foreign importations and the result has been the piling up of thousands of cords of the product with no market for it. Overproduction of news print along with the Russian competition caused a reduction in the price of the Canadian product besides reducing profits to a minimum. An appeal has been made to the Dominion Railway Board to reduce freight rates on pulpwood and lumber to levels which will allow the farmers in that section to retain their homes but so far it has been unsuccessful. In the petition, lower schedules were also sought on shipments to Thorold, Watertown, Merritton and Niagara Falls which it is claimed are excessive. It was also pointed out that with 1,000,000 cords of the Russian product already contracted for by American mills in 1931 there are very slight prospects of much business from that source. Furthermore, it was brought out that the Canadian Pacific and American Railways have combined to ship pulpwood from Three Rivers to American points at reduced rates.

Attractive Inducements Made To Dexter Mill

DEXTER, N. Y., December 22, 1930—Attractive inducement from other communities are continuing to be received by the Dexter Sulphite Pulp and Paper Company relative to changing the location of their plant which is just now being handicapped by low water conditions. An offer was received early in the week from Henry L. Doherty & Co. in which inducements were made towards locating in lake port cities like Sandusky and Lorain, Ohio, where a steady source of power is obtainable in addition to cheap transportation rates. The Doherty concern controls immense power resources which places it in the position of being able to suggest a number of prospective sites served by it where conditions for the manufacture of paper and pulp are good and the water supply unlimited.

Officials of the local concern have also received similar correspondence from the Chamber of Commerce at Burlington, Vt., in which a new building containing about 50,000 square feet of space is offered for rental or purchase. It was stated in the communication that the building is in fine condition and the sale price is not very high. Authorities in this section claim that the Northern New York district is now faced with a serious situation because of inadequate supply of water power and it is claimed that there is grave danger of some concerns moving elsewhere. In one of the offers advanced by Henry L. Doherty & Co. it was suggested that a desirable building with 100,000 square feet of manufacturing space could be obtained in a progressive city. As an added inducement it was brought out that pulp originating in Canada could be brought down the St. Lawrence to a site on Lake Erie at reasonable rates.



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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

The Albenielsen Sulphate Pulping Process

By Marquard H. Lund[1]

The "Albenielsen System," named after the inventor Mr. Albert Nielsen, has been in operation at a Norwegian pulp mill for a period of a year and one-half. Its principal feature, and improvement claimed over other methods, is the method used for concentrating the liquor, in fact, the concentrator really serves two purposes, concentration and indirect cooking. At first, only one such concentrator was installed at the mill mentioned, but this has recently been followed by another one, which would indicate that the system proved satisfactorily in every way. A detailed description of it, together with some of the results obtained. may therefore be of interest.

The concentrator, which is the basis of the Albenielsen system consists of a cylinder, as shown in Fig. 1. At the top of this cylinder is a conical shaped foam-separator surrounded by the chamber for the steam inlet. At the bottom is another, from which the condensates can be disposed of through a two way valve. This is necessary, because there are two condensates, one from the evaporated steam, which can be used for the diffusers, and one from the fresh steam which is returned to the boilers. The outlet for the liquor is placed in the middle of the concentrator. A star-formed partition wall is also placed here, which serves to increase the heat-effect by a more rapid circulation, and forces the liquor to move around the steampipes. These steampipes are in S form to prevent the formation of deposits as far as possible.

Cooking Process

The cooking process for sulphate is as follows. After the digester is filled with liquor and chips, the circulation pump is started. The liquor will then pass through the strainer, placed in the bottom of the digester, and up through the concentrator until it reaches the top of the digester. The liquor circulation and the preheating continues in this manner until the evaporation can take place. During the circulation, the liquor rises only to the upper edge of the outlet in the concentrator because of the compression of air in the top part. When the liquor is to be evaporated the valve is opened. and the evaporated steam will enter the foam separator, where the foam bubbles that accompany the steam will burst and fall back into the concentrator, while the evaporated steam goes on to the next concentrator for heating. One concentrator can serve one or two digesters.

The time for the evaporation is about two and one-half hours. The steam consumption is reduced, and will at the same time be constant, but the most important advantage is that the concentration of the black liquor increases in proportion to the evaporated amount of water. As it is possible to regulate the evaporation of the water, wet wood will have no influence on the manufacturing process and uniformity of the product. By obtaining a liquor concentration on 24-26 deg. Bé by 90 deg. C. the fuel value of the black liquor will highly increase, and it is possible to do away with the expensive evaporation equipment in the soda house. By installation of the so-called Garbe-boilers following the rotary furnaces, it will be possible to use the heat of the black liquor for steam production.

[1] Commercial attache, U. S. Bureau of Foreign and Domestic Commerce, Oslo, Norway.

TABLE I
COMPARISON BETWEEN DIRECT COOKING AND ALBENIELSENS METHOD

Digester = 22m³. Amount of product = 1500-1600 kg.
Water in the chips 46%. Maximum temperature=170°C.

	Direct	Albenielsen
Steam per ton of product	2903 kgs.	2473 kgs.
Direct steam reclaimed		70%
Black-liquor analysis at 70°C.	12°Bé	24 Bé
Fuel value of the black-liquor per dem³	763 cal.	1404 cal.
Percentage of dry matter in the liquor	19.5%	36.4%

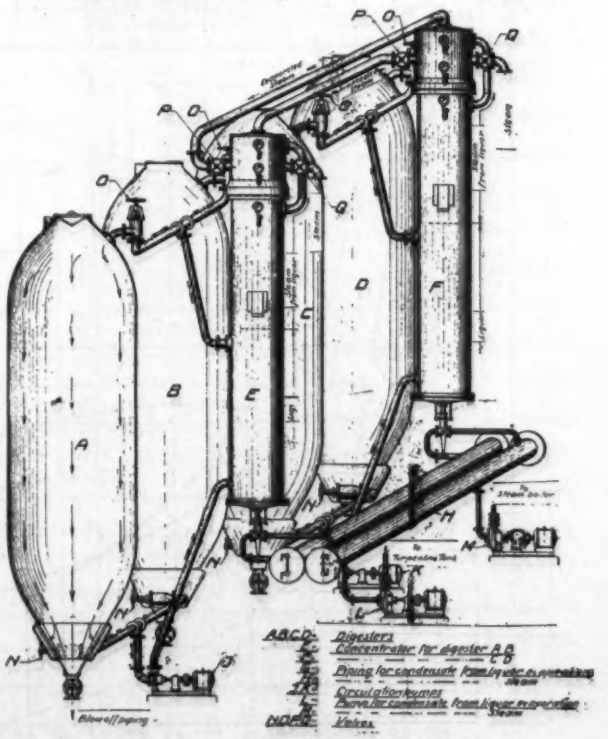


FIG. 1

The washing of this highly concentrated black liquor in the diffusers is also important. It has been shown that washing by 24 deg. Bé at 70 deg. C. was finished in 7½ hours and no coloring of the fibres took place, while the washing of the direct cooked sulphate at 12 deg. Bé, 70 deg. C. took a longer time. After the equipment had been in operation 1½ years the pipes were entirely free from deposits. The circulation and condensation pumps use 12-15 h.p. each. See Fig. 2.

DIRECT COOKING WHITE LIQUOR ANALYSIS 19 DEG. Bé BY 54 DEG. C.
Na_2CO_3=33.92 grams per liter
NaOH =89.6 grams per liter
Na_2 S =33.68 grams per liter
Degree of caustic=72.6 per cent
Water in the chips=31.8 per cent

BLACK LIQUOR ANALYSIS 17 DEG. Bé BY 70 DEG. C.
V.A.Na OH plus ½ Na_2S=0.63 per cent
Na_2S=1.52 per cent
NaOH=0.26 per cent

ALBENIELSEN METHOD, WHITE LIQUOR ANALYSIS 19 DEG. Bé BY 65 DEG. C.
Na_2CO_3=23.32 grams per liter
NaEH =88.8 grams per liter
Na_2 S=45.2 grams per liter
Degree of caustic=79.2 per cent
Water in the chips=48.4 per cent

BLACK LIQUOR ANALYSIS 17 DEG. Bé BY 70 DEG. C.
V.A.Na OH plus ½Na_2 S=0.82 per cent
Na_2 S=1.64 per cent
Na OH=none.

The pressure and temperature were taken every ten minutes and the liquor was analyzed every 30 minutes.

The product has been tested by "Papirindustriens Forsknings-committee," the official laboratory of the Norwegian paper industry. It will be seen from the table above, how the new system has improved the quality.

TABLE II

	Direct rotary digester	Albenielsen
Tearing strength	8500 m.	11000 m.
Stretch	5.2%	6.4%
Mullen test (lbs. per sq. inch)	97	104
Factor strength	165%	179%
Double folding	965	1475
Ash	1.1%	0.75%
Resin	0.11%	0.06%
Bleaching poine	4.58%	3.74%
Copper number	0.13%	0.45%

Measurements of steam and heat for the new method were executed under the control of "Norsk Dampkjelforening"—(Norwegian Steamboiler Association).

The digester was filled with 22.5 cubic meters of chips containing 52.4 per cent water; 5.85 cubic meters white liquor 19 deg. Bé, 65 deg. C; 6.5 cubic meters of black liquor 17 deg. B, 77 deg. C.

The first cook of easy bleaching sulphate evaporated 3600 kg. water from the black liquor, the time of evaporation being 2 1/3 hours. The cook was indirectly heated to 164 deg. C. and afterwards the temperature was raised to 170 deg. C. by use of direct steam for the blowing of the cook. The measurements taken and results obtained show that the use of vacuum and high pressure evaporators and disc evaporators can be eliminated.

With a black liquor concentration of 26-28 deg. Bé about 3400 kg. steam can be produced per ton product in the Garbeboilers, and with a consumption of about 1950 kg. steam per ton product in the digesters, 1300 kg. steam per ton product in the dry-

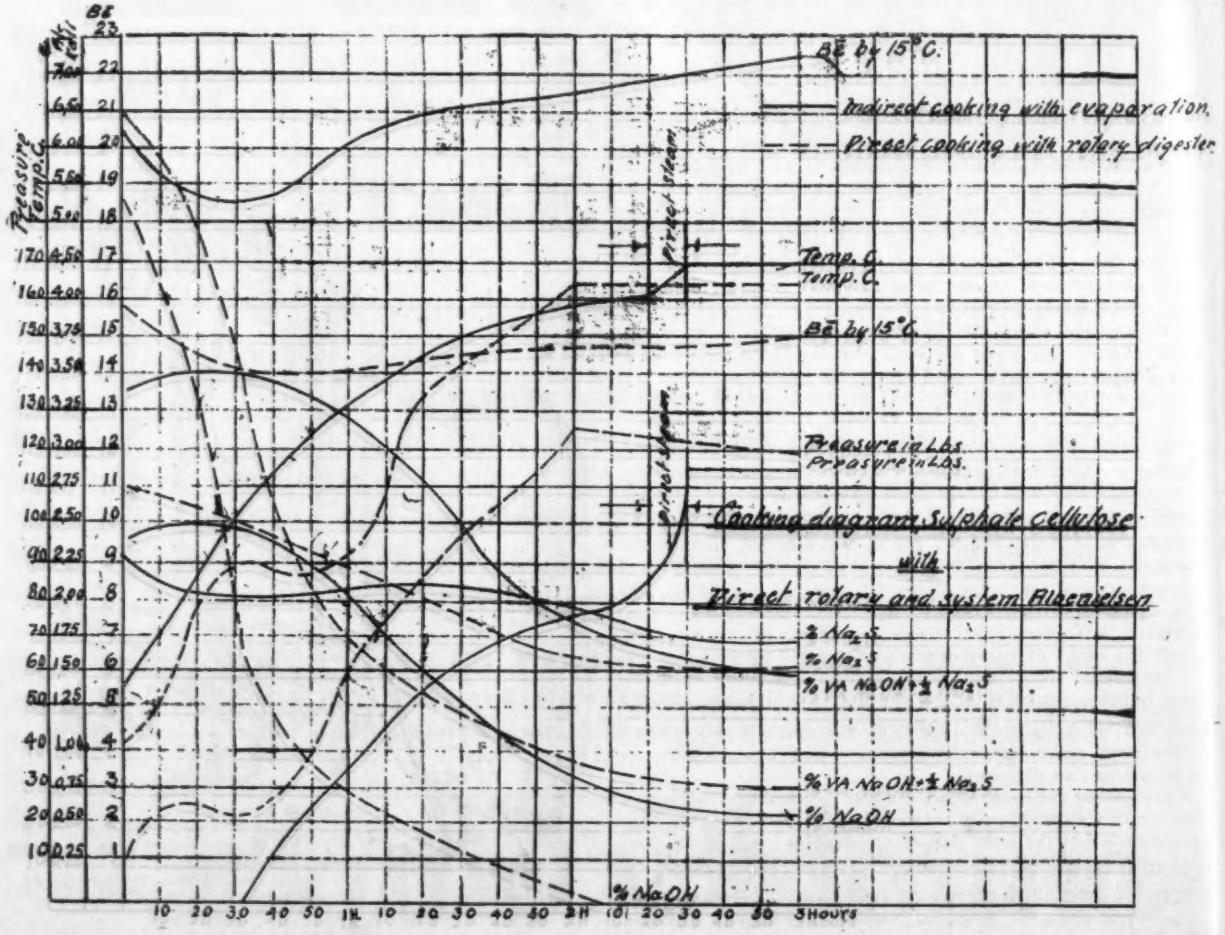


Fig. 2

machine, 150 kg. steam per ton product for liquor cooking, etc., or a total of 3400 kg. steam per ton of pulp. It will be seen that a sulphite mill with this system can be almost self-sufficient as far as fuel is concerned, except for the starting every week.

At present the Albenielsen system has been used only for the sulphate process. It is claimed that it is quite as well adapted to sulphite production, but has not been used for this purpose as yet, because acid-proof steel would be required in certain places on which the cost is very high at present. Nevertheless, an active selling campaign is to be started among European sulphite mills.

S. L. Willson Club Organized

A manufacturing club, composed of officials, superintendents, and foremen has been formed by the American Writing Paper Company, Inc., this year. The club is named after S. L. Willson, who is president of the company and will meet each month.

At the first meeting, which was held on October 2nd last at the Hotel Nonotuck, the following officers were elected: Honorary President, S. L. Willson, President, R. W. Pattison, Vice-President, L. P. Taylor; Secretary-Treasurer, C. H. Smith, and a Control Board consisting of L. M. Yoerg, L. C. Reynolds, and Adam Wilkinson.

L. C. Reynolds read a paper on "The Foundation of Modern Methods in Management," which was ably presented and very well received.

The second meeting was held at the Company's general offices on December 9, when a paper was presented by F. D. West of the Paradon Chlorinating Company on "The Prevention of Slime in Paper Mills."

Business Conditions in Pulp and Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 22, 1930.—Julius H. Barnes, chairman of the National Business Survey Conference, has issued a summary of business conditions reports received from the chief lines of American business. He has the following to say in connection with paper and pulp:

"In both paper and pulp, operations have been recently so balanced that production runs fairly close to demand. Total production of paper in 1930 has been about 9 per cent below 1929, and production of pulp about 5 per cent below. In newsprint, paper board, wrapping, writing, and tissue papers, average daily production in October was larger than in September. October production of pulp was 6 per cent over September, with mills at 74 per cent of capacity as against 86 per cent in October, 1929, and 83 per cent in October, 1928.

Inventories at mills have been slightly increased during the fall, but not to an abnormal degree. Merchants' inventories on November 1 were 15 per cent lower than on January 1, and considerably below the figure for any date in 1929.

Paper-box sales in ten months were, in dollars, twenty percent below the 1929 volume.

New Worthington Power Pumps Catalog

The Worthington Pump and Machinery Corporation, with executive offices at 2 Park Avenue, New York, and general offices at Harrison, N. J., has just published a profusely illustrated booklet in which Worthington Triplex Power Pumps are comprehensively described, and many typical installations are shown.

For the higher pressures and lower capacities, for conditions not met by the centrifugal, and where comparatively smooth discharge flow and highest mechanical and volumetric efficiencies are required, Worthington Vertical Triplex Single-Acting Power Pumps are particularly well adapted.

New Westinghouse General Catalogue

The Westinghouse General Catalogue, 1931-1932, comprised of 1352 pages presenting descriptions and illustrations of apparatus representative of the myriad of products manufactured and sold by the Westinghouse Electric and Manufacturing Company, of East Pittsburgh, Pa.

The announcement has recently been sent out by the company.

This catalogue presents complete listings of distribution apparatus, switchgear apparatus (except large oil circuit-breakers and power switchboards), lighting equipment, domestic appliances, gearing apparatus, and current-collecting devices; condensed listings of industrial motors and control apparatus, industrial heating apparatus, and commercial cooking equipment; and descriptions of other products. Style numbers, assigned to pieces of standard apparatus to facilitate ordering and the classification of records, are given for the standard equipment listed.

An interesting feature of the new catalogue is the "Instant Index," which appears on a two-page spread, printed on a heavy blue stock, in the center of the book. In this index the 24 groups of equipment described in the catalogue are listed in large bold type, and from the name of each group an arrow points to the index notch of the section of the book covering that equipment. Because all the groups thus listed can be noted at a glance and because two large notches at the bottom of the pages make it easy to open the book to the "Instant Index," finding the information for which one is looking is greatly facilitated. As in previous issues, a subject index and a style Number Index also are included.

An illustrated introductory section, printed in two colors on a heavy enamel stock, presents a brief history of the Westinghouse Electric and Manufacturing Company and a description of interesting research developments.

General Water Treatment Corp. Organized

Announcement was made by W. Spencer Robertson, president of the General Water Treatment Corporation, that the organization of that company had been effected by the exchange of over ninety percent of the outstanding capital stock of the Permutit Company for stock of General Water Treatment Corporation and the acquisition of all of the capital stock of Ward-Love Pump Corporation. The time within which the remaining outstanding stock of the Permutit Company may be exchanged for stock of General Water Treatment Corporation on the basis of twelve shares of General Water Treatment Corporation stock for each share of Permutit Company stock has been extended to December 31, 1930.

The General Water Treatment Corporation through its subsidiaries will engage in the manufacture and sale of water systems and equipment and minerals for the softening, purification or other treatment of water.

The directors of the company are Francis N. Bard, Vincent Bendix, Harry M. Durning, William M. Flook, W. Spencer Robertson and Kenneth B. Schley. The officers are Francis N. Bard, chairman of the board; W. Spencer Robertson, president; Harry M. Durning, vice president; H. W. Pratt, secretary and treasurer.

Cost and Technical Association Meets

[FROM OUR REGULAR CORRESPONDENT]

Kalamazoo, Mich., December 22, 1930.—The Cost and Technical Association of the Paper Industry met Tuesday evening at the Columbia hotel, for dinner and a program. John Wood, of the Kalamazoo Vegetable Parchment Company, offered a paper on "Distribution of Power Costs." Prof. Roy O. Mesick, of the Central High faculty, chose for his speech, "Boiler Feed Water Treatment."

The Fresk Digester Filling System

By Otto F. Kreissler [1]

The chips are run directly from the chip bin into the digester. They reach the center of the digester in an almost solid and steady stream, accumulating in the form of a cone from which the chips roll down gently, forming nests and voids. As a result of the weight of the chips themselves and because of the usual great height of the digester, the chips accumulate more closely in its center. They are, however, but loosely distributed toward the walls. Furthermore on account of the height of the digester the chips are more solidly packed in the lower portion.

To obtain an even, well-cooked pulp, it is essential that every chip be equally penetrated and treated by the acid and that an even temperature be established within the digester as soon as it is possible after the cooking has been started. Because of the uneven process of hand filling, a perfect circulation of the acid and the resulting distribution of even temperatures into all parts of the digester are very difficult to obtain. The lower, central portion of the digester, which is most solidly packed will not be penetrated by the acid as quickly as the loosely packed chips along its sides.

It is evident that because of the uneven penetration of the acid and the uneven development of temperatures in the various parts of the digester, there is obtained an unevenly cooked pulp, a poor yield of the wood and a greater percentage of uncooked wood.

In many factories it has been observed that the chips, when filling by hand, do not reach the digester in a perfectly vertical direction, not even in cases where the chip bins are adjusted vertically above the necks of the digester. This is due to the disturbance of the air circulation in the digester caused by the chips when entering. It is impossible to avoid this.

Stamping the Chips into the Digester

European factories fully appreciated the importance of obtaining the best possible yield, lowest percentage of uncooked wood and perfect quality of cellulose. For years they had realized the disadvantages of uneven filling by hand and, in order to overcome this difficulty, decided to stamp the chips into the digester.

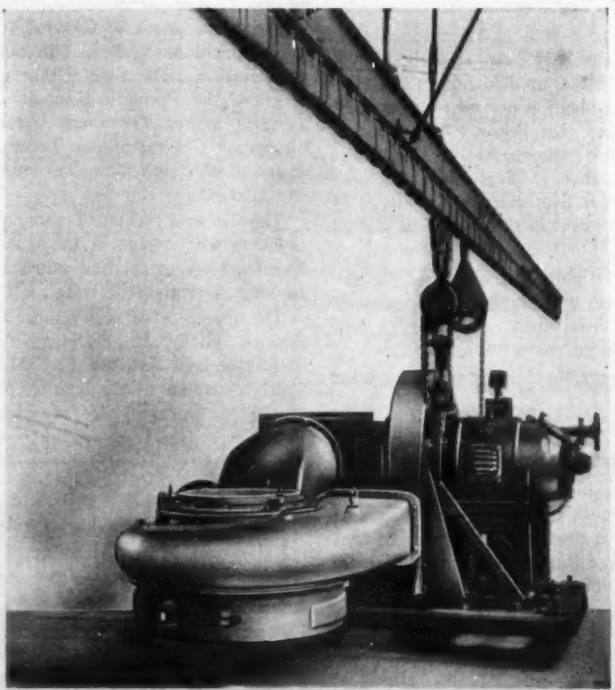
In the beginning a very simple method was resorted to. Four to six "chip-stampers" were sent down into the digester who, layer by layer, stamped down the chips. As a matter of fact, the chips were now evenly distributed within the digester but could not be stamped down very tightly since the weight of the wooden "stampers" was not great enough.

Thereupon heavy plates of lead were adjusted to the feet of the "stampers" and in addition to the even distribution of the chips, an increased output of about 8 to 10 per cent was obtained. However, this method also had its disadvantages because of the laborious and unhealthy stamping inside of hot and frequently very gassy digesters. It was decided to make use of the compressed air system, which had in the meantime been developed successfully, and thus iron stampers operated by compressed air were installed. An increased output of from 12 to 14 per cent was obtained together with a uniform quality of cellulose.

Although, as a result of this method, an even packing of the chips was obtained in every diameter of the digester, there was not a complete uniformity of the filling density when comparing the center of the digester with those portions along the walls. Furthermore the men using the compressed air stampers had to be extremely careful when approaching the walls of the digester so as not to do any damage. Again the layers of the chips were more solidly packed in the center of the digester than along its walls.

There was another disadvantage in stamping the chips because it was naturally impossible to place them all on their flat side, so that in many instances they were actually stamped to such an extent that they were crushed. However, they were willing to overlook this drawback, since after all they had obtained an even circulation of the acid as well as an even distribution of the temperatures and a somewhat greater quantity of pulp.

As already mentioned, the men working at these "stampers" inside of the digesters were obliged to risk their lives, or at least their health, due to the great heat and gasses which were bound to develop; their lungs gradually became infected as the result of great quantities of dust arising and gradually enveloping them entirely while at their work. Many European factories were forced to report sickness resulting from this type of work and more than twenty deaths were attributed thereto. However, in order not to be forced to forego the advantages already obtained, they endeavored to protect these men by supplying them with gas or dust masks and by continually pumping cold air into the digester during the process of filling.



Fresk Digester Filler

A number of factories who did not know the reason for the unsatisfactory results obtained by means of the hand filling system and whose main object it was to obtain as great an output as possible, decided to steam the chips.

Steaming the chips proved to be of disadvantage because of the condensation of the introduced steam. A great quantity of water was immediately absorbed by the chips and, of course, more so in the lower than in the upper portion of the digester. The disadvantage of filling by hand was thus again clearly emphasized. Furthermore, the chips as a result of the steaming were heated and those in the lower portion to a greater extent than those above. As soon as the cold cooking acid was introduced into the digester, a con-

[1] Member TAPPI, consulting engineer, American Lurgi Corp., New York, N. Y.

siderable portion of SO_3 of the calcium was released and the remaining calcium gradually clogged up the pores of the chips, so that the latter could not be saturated at all by the acid, remaining practically uncooked within the digester, thus making it almost impossible to empty the digesters.

The unsatisfactory experience made with the steaming of the chips as well as the dangerous method of stamping demanded improvement and ultimately led to the development of such apparatus and machinery not requiring the work of men in digesters. In recent years a number of chip filling machines have been brought on the market. Most of them, however, have not proved to be satisfactory, as they did not overcome any of the aforementioned difficulties.

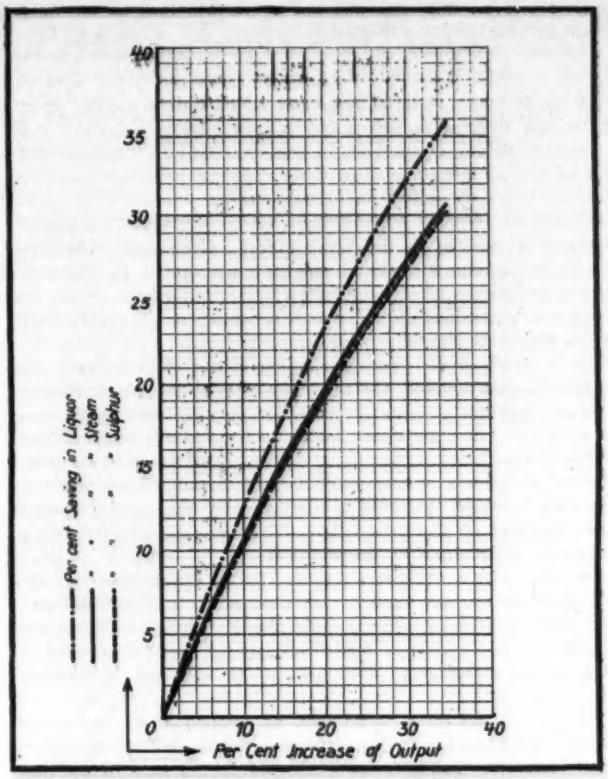
Mr. Fresk, for many years director of the pulp mill in Robertsfors, Sweden, had ascertained, after innumerable experiments, that the only way to overcome all these difficulties was by utilizing air for the purpose of filling the chips uniformly and firmly into the digester. This, he was convinced, could be done without detrimentally affecting the cooking process, as had been the case when applying steam.

He knew the importance of avoiding a sudden cooling off of the digester and its brickwork. For this reason he uses air for his apparatus, applying it in a circular motion; that is, the air with which the chips are dropped into the digester is then drawn from the digester by means of a suction ventilator, simultaneously causing the chips to enter the digester. As a result of the uninterrupted circulation of air in connection with high-pressure ventilators and its resulting compression of air, the former is gradually heated. This likewise has a tendency to heat the contents of the digester as well as the chips.

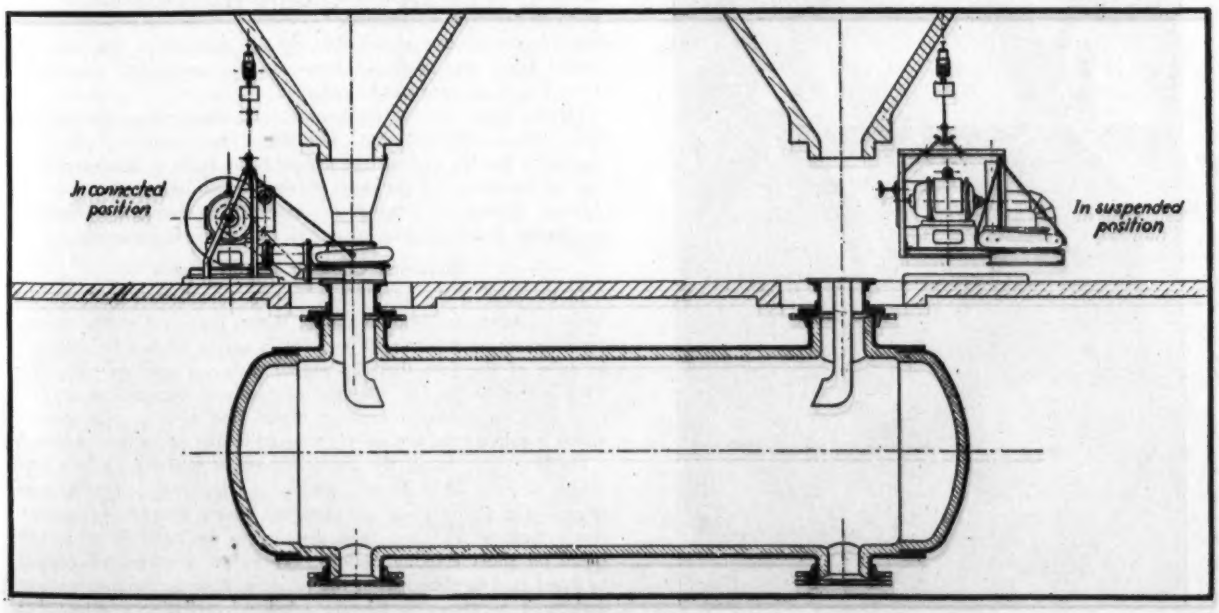
Another advantage of the Fresk apparatus is that almost immediately after starting to fill the chips into the digester, the acid may be pumped into it. For this reason the total filling time can be considerably lowered.

The apparatus is constructed in such a way as to make it easy to roll it from digester to digester. Furthermore the time required for adjusting and removing the apparatus to and from the digester is not much more than it takes for the preparations in the case of hand-filling.

It may be stated that, similar to all new inventions, the Fresk apparatus in its early stages did not completely fulfill the desired requirements. Originally Mr. Fresk used a filling pipe which, at its lower end was equipped with a blunt cone, suspending from the neck of the digester. Contrary to the results obtained by hand-filling, this caused the chips to be more densely packed along the walls of the digester than in the center. This method of distributing the chips, therefore, did not prove satisfactory, and so he decided to equip the filling pipe at the lower end with a shovel and rotate the entire pipe by means of a specially designed mo-



SAVING IN LIQUOR, STEAM AND SULPHUR



CROSS SECTION OF TYPICAL HORIZONTAL INSTALLATION

tor. However, this idea was not a practical one, as the dusty chips proved to be a detrimental handicap.

The Lurgi Company has developed an apparatus which works evenly in every way and which can be used for every kind of cooking process. It is an apparatus which can be applied to all types and sizes of digesters and various cooking processes, distributing the chips uniformly, irrespective of how densely they are packed, so that the quality of the cellulose, produced by means of the Fresk apparatus shows considerable improvement. The fact that in Germany rayon pulp is very successfully produced from chips, treated by the Fresk process, alone emphasizes how evenly the apparatus works. Every pulp man knows that the most important feature of rayon pulp lies in the uniformity of the pulp produced by various digesters and an even run of quality from each individual digester.

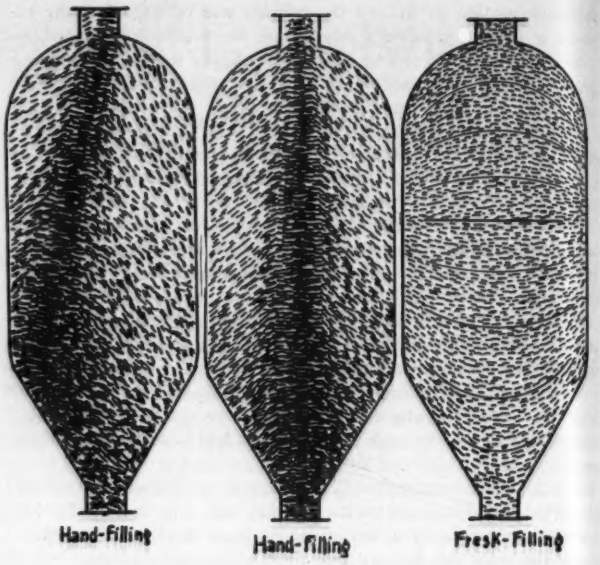
As a result of the even distribution of the chips in every diameter of the digester, the resistance against the penetration of the acid becomes uniform, so that likewise a uniform temperature is obtained. Once the Fresk apparatus is prepared for the filling, the acid circulation in the digester is so satisfactory that an additional circulating system would be superfluous. It may be emphasized however, that such a circulating system always involves the advantage of shortening the cooking time and of establishing a quicker distribution of temperatures.

Another important feature achieved by the Lurgi Company, who has acquired the sole right of introducing this apparatus all over the world, is the fact that it may also be applied to horizontal digesters. In the case of filling this type of digester by hand, it was always necessary to send men into the digester to distribute the chips.

Because of all these advantages, as detailed above, the Fresk filling apparatus became very popular among leading European manufacturers. The greatest number of the digesters of the Sulphate and Sulphite industries in Europe are now being filled by means of the Fresk method and the finest type of pulp, Mitscherlich as well as Pitter-Kellner so produced for first-class writing and printing paper.

The Fresk apparatus can be executed in any required form, according to whatever type the digester house may be. The apparatus is handled either by means of tracks or suspending crane from digester to digester. In a few old-fashioned and less roomy factories, the apparatus was built in. The apparatus can be executed in various sizes and is made according to the capacity of the digester. In the case of horizontal digesters, two machines are used which are also movable.

MANUAL TAMPING FORMERLY PRACTICED IN EUROPE



Yields from Cooks

The Fresk apparatus involves particularly great advantages for the American factories that are now almost all working on the basis of short cooking periods. It is a fact that the yield of cellulose from the wood increases with the length of the cooking periods. The very best yield of cellulose from the type of wood generally used in the United States is obtained during a cooking period of approximately from 14 to 15 hours by means of a direct method of cooking. However, mills should not permit any shorter cooking periods than 12 to 13 hours. The wood has a cellulose content of approximately 60 per cent, but in American mills, due to the short cooking periods, an average only of quantities of from 38 to 46 per cent is obtained.

Experiments have shown that, when increasing the cooking period from nine to eleven hours, an increased yield of pulp of from 7 to 8 per cent can be obtained.

Of the total cost of production, raw wood alone amounts to from 55 to 60 per cent. For this very reason it is clear that considerable savings can be obtained from a greater utilization of the wood, all the more so since, in so doing, there are additional savings of about 20 per cent acid, a decrease of sulphur and about 20 per cent of steam, as shown in the diagram.

Increased Cooking Period Yields

In the case of the hand-filling system, calculations made on the basis of American conditions have shown that even if the cooking periods are extended to 20 per cent, a saving cannot be obtained, in spite of the fact that the output of wood may be increased. This is due to the fact that the expenditures incurred in connection with an extended cooking period and consequently greater steam requirements, are merely covered by the profit thus obtained.

On the other hand, the Fresk apparatus permits an increased filling of from 20 to 25 per cent and a simultaneous extension of the cooking period of 20 per cent, the annual quantity of production remaining the same as is the case in the hand filling system based on short cooking periods. However, a saving of from 7 to 8 per cent is obtained on the entire cost of production without making it necessary to tolerate a bulky installation or any other changes in the mill.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C. The charge for this service is 25 cents per page. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Sulphite Processes

Experiments on the Decomposition of Cornstalks by Mono-Sulphite Liquor. Endre Howath, Technical University, Budapest. Papier-Fabr. 14, 239-41 (April 6, 1930).—In the cornstalk there is a great difference between its three components, the hard outside shell, the spongy parenchyma and the knots. The addition of sodium hydroxide to the sodium sulphite liquor showed more favorable results. A short review of the literature on the cooking of cornstalks with mono-sulphite liquor is given and also a tabulation of the results from the various experiments.—J. F. O.

Decomposition of Pine Wood by the Sulphite Process. Ing. K. Berndt, Forestry Univ. Eberswald, Germany, Wochbl. Papier-Fabr. 61, No. 10 (Mar. 10, 1930).—A pre-treatment of the wood with alkali aids in the decomposition by the sulphite process. The high rosin content naturally retards the penetration of the sulphite liquor. A review of the literature on the subject is compiled.—J. F. O.

Decomposition of Pine Wood by the Bisulphite Process. K Berndt, Holzforschungsinstitut der Forstl. Hochschule, Eberswald, Germany, Papier-Fabr. 28, No. 19, 313-9 (May 11, 1930.—A review of experiments and work performed on the decomposition of pine wood by the bisulphite process. Patent and literature references are quoted. Of especial interest for the bisulphite decomposition of pine wood are the penetration experiments performed with bisulphite solution under high pressure and temperature. Schwalbe and Lange have shown that in the soaking of spruce wood with calcium bisulphite it is absorbed or taken up in its normal composition. The calcium oxide and sulphurous acid are combined in the wood in the same relation with each other as in their original solution. Quite otherwise lies the relation with pine wood. The quantity of liquor as well as the quantity of base are, according to the experiments of Schwalbe and Ekenstam, also the same in the heart of the wood. On the other hand the absorption of sulphurous acid is so small, that the composition in the wood is in the form of neutral sulphite. It is without doubt that such a lack of sulphurous acid is responsible for the failure of the solution to react in its proper manner. Experiments have been made to show that it is not the quantity of rosin in pine wood that makes it impossible to cook it with ordinary calcium bisulphite, as previous to cooking the rosin was extracted down to the amounts normally found in spruce. For the complete extraction of the harmful materials, only alcohol and ether are applicable, benzol is unsuitable. We have here a good example of the colloidal character of wood. The wood fiber, a typical colloidal formation, prevents the extraction of certain materials with ether although these substances are in a free state and are soluble in ether. There are two possible ways to cook pine with bisulphite. One is to pretreat the wood and change the cooking condition or the composition of the cooking acid. The other method is to isolate or remove the harmful material of the heart wood.—J. F. O.

Process for the Manufacture of Sulphite Pulp from Wood or other Fiberous Materials. P. G. Ekstrom and R. H. Hult, Stockholm, Sweden. Swedish pat. 68,741 (Sept. 26, 1927).—The material is cooked with a solution containing a calcium, magnesium, sodium or ammonia or any other sulphite, (or several of the same mixed) and an excess of sulphur dioxide. During which the cooking pressure does not go below 8 kilograms per square centimeter, the temperature at the same is held so low that at no time reaches 125 deg. C during the cooking.—J. F. O.

Process for the Manufacture of High Grade Fiberous Material, Especially from the Waste of Spinning Flax, Hemp, Jute and like Materials. I. G. Farbenindustrie, Franfurt a.M. Germany. Austrian pat. 116,059 (Aug. 15, 1929).—The raw material is treated with a liquor of mono and bisulphite under addition of neutral salts at high temperature, chiefly under pressure, whereby the liquor of one tone of mono-sulphite contains 3 to 3½ tons bisulphite in addition to the soluble sulphates and chlorides of the alkali or earth alkali of magnesium or aluminum.—J. F. O.

Device for the Separation of Gaseous Media in Liquids. Ernst Weber-Stierlin, Zurich, Switzerland. German pat. 493,342 Kl. 12c Gr. 1 (Aug. 12, 1926).—The gas is compressed through a layer of fiberous material which consists of a single piece. The gas leaving at a regulatable pressure goes to a separator connected to it.—J. F. O.

Process for Driving off the Sulphur Dioxide Gas from Aqueous Solutions of Sulphurous Acid. Malmindustrie, Oslo, Norway. Swedish pat. 68,628 (Oct. 22, 1927).—The solution is heated to a suitable temperature before driving off the sulphur dioxide gas, whereupon it is exposed without addition of heat in a special apparatus, to such a pressure decrease that the sulphur dioxide content wholly or partially disappears.—J. F. O.

Process for Sulphite Cooking. Syndicat d'Etudes et d'Applications Industrielles and Raoul Pictet. Fr. pat. 669,058, (May 24, 1928).—In the preparation of pulp by treating wood with aqueous solutions of sulphur dioxide, a circulation of the liquid is caused by lowering the specific gravity in different zones, for instance, by injecting steam at different depths.—A. P.-C.

Sulphite Pulping Process. Donald E. Cable. Can. pat. 300,279 (May 20, 1930).—Sulphite pulp is produced by applying a vacuum to the filled digester, inserting the digesting solution and adding a non-oxidizing gas, preferably nitrogen, until a penetrating boosting pressure is reached.—A. P.-C.

Process for the Working of Waste Liquors from the Cooking of Pulp with Sodium Sulphite. Societe Barbou & Cie, Paris, France. German pat. 490,053. Kl. Gr. 3 (March 29, 1927).—The waste liquor is treated with the bases of the earth alkalies, i.e., milk of lime. The separated liquor from the precipitation of calcium sulphite is decomposed with bisulphite, especially the calcium bisulphite obtained from the precipitation of calcium sulphite. The remaining solution is separated from the organic substances according to the usual method of dry distillation. If necessary the organic material contained in the residue is washed.—J. F. O.

Recovery of Pure Raw Sulphur. Fa. Karl Still, Recklinghausen, Germany. German pat. 489,989 Kl. 12i Gr. 17 Sept. 14, 1927).—Recovery of a very valuable raw sulphur in the wet gas purification by means of a mixture of metallic oxides and foam forming means. The process is characterized in that the metallic oxide mixture used to wash the gases is prepared from such metallic oxides which in their natural condition are foam forming.—J. F. O.

Process for the Manufacture of Yeast from Waste Sulphite

Liquor or from a Solution Containing Sugars Obtained in the Treatment of Wood. A. Bol. Basta, Stockholm, Sweden. Swedish pat. 68,951 (Oct. 1, 1925).—The yeast deposit is developed in a solution with a high content of sugar, as for example the wort prepared from the waste sulphite liquor in which the greater part of the yeast culture is taken up.—J. F. O.

Process for the Manufacture of Stabilization of Emulsions. Solutions or Suspensions of Substances which are Unmixable with Water Under Normal Conditions. A. Englestad, Vardal, Norway. Swedish pat. 68,978 (Sept. 20, 1926).—The substance to be emulsified or dissolved, or the solution to be emulsified, stabilized or put in suspension is mixed with a concentrated solution of lignin derivatives which through treatment with materials containing cellulose are obtained with aqueous sulphur dioxide or with a concentrated solution of its oxydation or condensation products.—J. F. O.

Treatment of Sulphite Waste Liquor. Pierre A. Barbou assignor to Societe Barbou et Cie. U. S. pat. 1,749,557, (March 4, 1930).—In order to recover sulphur dioxide and soda from waste liquors from the cooking of cellulosic material with sodium bisulphite, the liquors are treated with an alkaline-earth base such as lime to form caustic soda, an organic sodium compound and an insoluble alkaline-earth metal sulphite; the liquors thus obtained are treated with a bisulphite such as calcium bisulphite to form a sodium sulphite with precipitation or organic matter in the form of organo-metallic compounds.—A. P.-C.

Treatment of Sodium Sulphite and Bisulphite in Alkaline Liquors. Zellstoffabric Waldhof and O. Faust. Belg. pat. 362,921, (Sept. 30, 1930).—Spent mercerizing liquors and spent pulp liquors are treated with sulphur dioxide, and the precipitation organic matter is separated.—A. P.-C.

Using Waste Liquors from the Cooking of Sulphite Pulp to Prepare Liquor for the Soda Pulping Process. Linn Bradley and Edward P. McKeefe assignors to Bradley McKeefe Corp. U. S. pat. 1,747,047 (Feb. 11, 1930).—Waste liquor from the sodium sulphite cooking process is causticized to produce a cooking liquor suitable for use in the soda pulping process.—A.P.-C.

MECHANICAL PROCESS

Recent Experiments to Determine the Strength Qualities of Natural Pulp Stones and the Allowable Peripheral Velocity of High Power Grinders. Ing. E. Bock, Chairman for the State Testing Bureau, Chemnitz, Germany. Wochbl. Papierfabr 61, No. 18, 575-8 (May 3, 1930).—The tensile strength varied between 16.9 to 23.5 kilograms per square centimeter. The water absorption is 5.49 to 8.31 per cent of the dry weight. If the stone is impregnated with substances insoluble in water, the tensile strength is increased three fold, but when an impregnated stone gets dull, it only makes greasy stock while the particles in an unimpregnated stone fall out and thus keep the stone in a grinding condition. To prevent greasy grinding an impregnating material is used which is soluble in water. By the use of impregnating materials, explosion of the stone is avoided.—J. F. O.

Process for the Breaking Down of Pulp and Ground Wood Rolls from the Front Side of the Roll. Linke-Hofmann-Busch-Wedke. A. G. Berlin, Germany. German pat. 489,530 (Dec. 24, 1929).—The roll is rotated around its longitudinal axis. The pressing of the roll occurs through its own weight or through a revolving pressure roll arrangement.—J. F. O.

Continuous Wood Grinder with a Supply Chamber Above and to the Side of the Stone. Otto Andresen, Oslo, Norway. German pat. 488,066 (Oct. 29, 1925).—The new wood grinder is characterized by a feeding device consisting of a feed drum provided with teeth. The supply chamber and the grindstone being arranged in such a manner, that a considerable part of the weight of the wood in the supply chamber is supported on the oblique side.—J. F. O.

Regulating Arrangement for the Feed of the Wood in a Pulp Grinder, Driven by the Same Electric Motor, Main Motor. Siemens-Schuckert-Werke A. G. Berlin, Germany. Norwegian pat. 47,018 (Feb. 17, 1926).—The feed is regulated with the aid of an electric motor in relation to the load of the main motor. The regulating arrangement used for each feed motor is influenced on the one hand by the load on the main motor and on the other hand by the feed motor itself.—J. F. O.

Arrangement for Regulating the Feed of Wood to a Pulp Grinder Driven by a Mutual Electric (Main) Motor. Siemens-Schuckert-Werke A. G. Berlin, Germany. Norwegian pat. 47,075 (Nov. 8, 1927).—Regulating arrangement according to Norwegian patent 47,018. The regulating arrangement from the single motors are influenced simultaneously by a change in load but in oppositely set directions.—J. F. O.

Regulating Device for the Feed of Wood to a Grinder with Several Units Driven Through a Common Electric Motor. Siemens-Schuckert-Werke A. G. Norwegian pat. 47,329 (March 4, 1927).—The feed is regulated independent of the load of the drive motor, with the aid of a special electric motor.—J. F. O.

Process and Arrangement for the Regulation of the Load of a Pulp Grinder. Allgemeine Elektricitats Gessellschaft. Berlin, Germany. German pat. 492,754 Kl. 55a Gr. 1 (March 24, 1927).—The invention concerns itself with a pulp grinder by which the feeding and pressing of the wood against the stone is carried out by one or more presses placed over the stone. The regulating of the feed of wood is in immediate dependence to the pressure of the wood exerted on the stone.—J. F. O.

Electrical Alternating Current Drive for the Feeding Arrangment on Wood Pulp Grinders. Siemens-Schuckert-Werke G.m.b.H. Berlin, Germany. Austrian pat. 115,899 (July 15, 1928).—Alternating current motors are used, whose moment of rotation from stand still to its maximum speed of feed, continually decreases so that the latter is automatically regulated depending upon the load on the pulp stone, but electrically independent of the grind stone motor.—J. F. O.

Miscellaneous Pulping Process

Process for the Production of Paper Pulp. M. M. Serebriany. Eng. pat. 324,527, (Jan. 28, 1929).—Vegetable fibrous material, such as wood, bark, moss, straw, reeds, sawdust or cork (to which other materials such as rags or leather waste may be added if desired) in finely ground condition are swelled and stirred in cold water or in hot water at 60 deg. to 80 deg. C or in a mixture of equal quantities of turpentine and either benzine or petroleum and the swelled mass may be rendered soft and resilient by adding 2 to 4 per cent of rubber or leather dust. Various inorganic fillers may be added and the mass may be worked on paper- or paste-board-making apparatus.—A. P.-C.

Pretreatment of Wood Before Pulping. Karl G. Bergström and Arthur F. Zennstroem. Fr. pat. 673,318, (July 27, 1923).—Resinous wood is treated with turpentine oil to remove the resins.—A. P.-C.

Paper Pulp. Elton R. Darling assignor to The Cornstalk Products Co., Inc. Can. pat. 301,182, (June 17, 1930).—Shredded and comminuted vegetable material having low lignin and relatively high pentosan contents is digested in water under heat and pressure to remove the extractable matter, heated with a 1 per cent solution of sulphur acid to hydrolyze the pentosans and lignins, and washed to remove the hydrolyzed and solubilized pentosans with the concomitant liberation of the fibers.—A. P.-C.

Apparatus for the Cascade Extraction of Pulp from Fiber-Yielding Vegetable Materials such as Bamboo, Wood, Grasses or Reeds. Edmondson Spencer. U. S. pats. 1,761,543 and 1,761,544 (June 3, 1930).—The material is treated with digester liquor under pressure in stages in digester, with progressively increasing pressure and active liquor concentration at each stage until the digestion is nearly complete, and then varying the active liquor concentration in the final stages sufficiently substantially to prevent the hydrolysis of the cellulose fiber in the final stages. No. 1,761,543 relates to the process and No. 1,761,544 to the apparatus for carrying it out.—A. P.-C.

Pretreatment of Fibrous Material Prior to Pulping. Sidney

D. Wells. U. S. pat. 1,771,598, (July 29, 1930).—After charging the material into the digester, the latter is filled with non-acid digesting liquor, and allowed to stand for a sufficient length of time for the liquor to impregnate the material. A portion of the liquor is then removed from the bottom of the digester and at the same time steam is introduced at the top to prevent access of air or formation of a vacuum. The material is then cooked as usual.—A. P.-C.

New Process for the Manufacture of Cellulose. Dr. Korber, Papierfabr. 28, No. 12, 204-6 (March 23, 1930).—The underlying advantage of the process, which uses soluble organic substances is to eliminate the after treatment, (the treatment with caustic) necessary to provide for a purer cellulose. The following advantages (1) short duration of the treatment, 1 to 2 hours; (2) avoiding loss of the material as the fiber is not chemically acted upon. (3) obtaining a high alpha content and also a high absorption factor as well as a low wood gum content. Since the material is easy to bleach, a low copper number is also possible. (4) A saving of up to 50 per cent chlorine; and, (5) a shortening of the bleaching time.—J. F. O.

Sizing

Surface Sizing. H. Postl, Modling, Austria. Zellstoff Papier 10, No. 1, 36 (Jan., 1930).—Machines and methods described.—J. F. O.

Preparation of Rosin Solutions. Andre Thiriet and Pierre Delcroix assignors to Procédés Navarre. U. S. pat. 1,759,526 (May 20, 1930).—A clear solution of rosin for sizing paper consists of a completely saponified rosin soda soap dissolved in a solution of caustic soda, the total content of soda, both combined and free, being less than 10 g. per 1.—A. P.-C.

Paper. Raffold International Corp. Fr. pat. 675,535 (May 22, 1929).—A sized paper is made by mixing together fibrous material, a paraffin emulsion and a charge of carbonate. The paraffin emulsion may be precipitated by the action of alum.—A. P.-C.

Sizing Paper Pulp. Judson A. DeCew assignor to Process Engineers, Inc. U. S. pat. 1,753,775, (April 8, 1930).—The fibers are first acidified with a solution of aluminum sulphate at a pH of 5.0 to 6.8 and a sizing material is then added.—A. P.-C.

Dyes and Dyeing

Surface Coloring. F. A. Soderberg. General Dyestuffs Corp., New York. Paper Trade J. 90, No. 20, 60-61 (May 15, 1930).—A discussion covering briefly the fundamental phases of surface or calender coloring.—A. P.-C.

Coloring Paper. I. G. Farbenindustrie Aktiengesellschaft. Fr. pat. 676,938. (June 20, 1929).—Paper web or pulp is colored by the dyes, which appear to be oxazines and which are prepared by sulphonating the product obtained by heating high molecular diarylaminobenzoquinones in the presence of a high boiling-point solvent, or by treating diarylaminobenzoquinones as described in Eng. pat. 313,094.—A. P.-C.

Beating

Beating of Paper Pulp. VII. Beating Degree and Copper Number. M. Nakano. J. Cellulose Inst. (Tokyo) 6,75-76 (1930).—As a result of an investigation of the relation between copper number and degree of beating it is shown that: (1) The copper number of the beaten stuff is generally higher than that of the original pulp. (2) The rate of increase of the degree of beating of the stuff does not depend on the initial copper number of the unbeaten pulp. (3) There is no relation between the degree of beating and the copper number of the beaten stuff.—A. P.-C.

Beating Paper Pulp. VIII. Effect of Various Reagents on the Stuff in Beating. M. Nakano. J. Cellulose Inst. (Tokyo) 6, 89-99 (1930).—The effects of various regents and of various pretreatments on the beating of stuff in the ball mill were investigated. Pretreatment with dilute solutions of strong acids causes wet-beating to be attained rapidly, owing to the reduction in the degree of aggregation of the cellulose, but increasing loss of minute fibers, or slime from the wire cloth results, and the strength of the paper sheets is greatly diminished. When such dilute solutions are used as beating media, the effect is the same as when water alone is used. Weakly xanthated pulp gives very wet pulp which becomes very free when decomposed with acid. Xanthated and subsequently decomposed pulp can only be re-beaten with difficulty. Addition of alcohol or glycerine to the water retards beating. Pulps treated with concentrated zinc chloride solutions give very free stuffs and very absorbent paper sheets. Those beaten in alkaline solutions also give free stuffs, but pulps pretreated with concentrated alkaline solutions can only be wet-beaten with difficulty. Kraft pulps become soft on bleaching and are easily wet-beaten, but the effects of bleaching sulphite pulps depend on degree of bleaching. Addition of lactic acid to the water, or preliminary steeping of pulps in dilute lactic acid solutions, does not accelerate beating, which is contrary to Schwalbe's claim (Ger. pat. 379,996). Pulps for artificial silks are similar in behavior to ordinary paper pulps, whilst those for nitrocellulose are difficult to beat to wetness.—A. P.-C.

Beating of Paper Bulp. IX. Effect of Beating on the Viscosity of Stuffs. M. Nakano. J. Cellulose Inst. (Tokyo) 6, 106-107 (1930).—Surgical cotton was beaten for 7 hours until a very wet stuff was obtained and the viscosity of the solution obtained by dissolving the dried product in a 0.5 per cent cuprammonium solution containing 182 g. of ammonia and 11 g. of copper per liter was compared with that of the original cotton under the same conditions at 25 deg. C. The average relative viscosities were found to be: cotton 10.8, beaten stuff 6.7; this considerable fall is attributed to a reduction in the size of the micelles in the cellulose fibers.—A. P.-C.

Beater with a Double Trough. P. J. Wolfe & Söhme G.m.B.H. and Hermann Mallick, Duren, Germany. German pat. 488,726 (June 22, 1926).—The invention concerns a stock beater with a double trough by which a part of the stock thrown back is led to the side passage with the aid of deflecting wall over the beater roll.—J. F. O.

Beater. Ing. R. Wendle, Stockholm, Sweden. Swedish pat. 68,518 (May 25, 1926).—The beater roll and bed plate are enclosed in a stock trough, which is formed to a drum which revolves around a horizontal axis.—J. F. O.

Bed Plate with a Smooth Working Surface for Beaters for Paper Stock and Similar Substances. Karl Rieth, Memel, Germany. German pat. 493,573 (Feb. 3, 1928).—The object of the invention is to spare the fibers so that they are subjected to a hydration rather than a tearing action. The solution of this problem lies in the smooth surface of the bed plate, preferably made of metal which should show a dense structure with neither cracks nor pores. In this way the well beaten action on the paper stock is attained only through hydration.—J. F. O.

Beater for the Preparation of Paper Stock. Reinhold Wendel, Stockholm, Sweden. German pat. 492,193 Kl. 55c Gr.8 (May 29, 1927).—The invention is characterized principally in that the trough is formed in the shape of the drum with a horizontal axis surrounding the beater roll and the bed plate. It can thereby be moved through an exterior driving device or automatically by the motion of the paper stock. The beater can operate intermittently or continuously.—J. F. O.

Defibering Machine for Pulp, Ground Wood and Similar Substances. Ing. Chr. Holter and Olaf Qviller, Oslo, Norway. Norwegian pat. 47,301 (March 23, 1926).—A shaft arranged with hammers rotates in a housing, which also rotates, but in the opposite direction and with a speed of rotation different from the shaft with the hammers.—J. F. O.

Production of Paper. L. Mellersch-Jackson, from Mathieson Alkali Works. Eng. pats. 326,956 to 326,958 (Feb. 15, 1929).—*No. 326,957*—Chlorine is used for the sterilization of the stock and for this purpose is conveniently introduced continuously into the mixing boxes ahead of the paper machine in sufficient quantity to leave 0.5 to 1.0 part per million of free chlorine. *No. 326,956*—A coagulating agent, such as alum, may be added at the same time to

effect coagulation of the colloidal material. This chlorination treatment prevents slime and pitch formation, increases the hydration of the stock, and at the same time causes it to run free on the machine. *No. 326,958*—Chlorine is added at or near the beginning of the beating operation to sterlize the stock and thereby prevent the formation of pitch and beater gum during the beating operation.—A. P.-C.

Bleaching

Chemistry and Technology of Bleaching Cellulose. Dr. Lad Rys, Zellstoff Papier 10, No. 3, 161-6 (March, 1930).—A comprehensive review of contemporary literature on bleaching. The incrustants on the cellulose fibers to be bleached are classed as follows: (1) Sulphonated lignin which is no longer soluble in water but completely soluble in dilute alkali. The chlorine consumption of these incrustants is about 5 per cent of the total. (2) The sulphonated lignin which goes into solution with moderate bleaching. (3) Sulphonated lignin which after moderate bleaching is completely insoluble in water but easily soluble in dilute alkali. (4) The lignin remaining, (unknown whether it is sulphonated or not) whose separation primarily requires an oxydation reaction. The following bleach procedure is recommended. (A) The pulp is made alkaline but without heating, and the impurities are washed away. About ½ to 1 per cent of active alkali is used, the time being 5 to 15 minutes. (B) The well washed pulp is then bleached with chlorine with 70 to 90 per cent of the total required. The chlorine gas is added directly and its action should be exhausted in one hour at the most, usually 15 to 30 minutes. (C) The chlorinated stock is then washed and again treated with ½ to 1 per cent alkali. (D) The washed stock is further treated with the necessary amount of hypochlorite bleach, requiring 2 to 4 hours. A 20 to 30 per cent saving of chlorine is claimed with this method as well as a very white and pure pulp. The process can operate continuously as well as by the batch process.—J. F. O.

Progress in a Modern Bleaching Plant. A. Arens, Zellstoff Papier 10, No. 3, 166-71 (March, 1930).—A description of a liquid chlorine plant. The favorable conditions for bleaching are, 20 per cent stock density,, 25 deg. C. and temperature and a bleach solution containing 20 to 30 grams of active chlorine per liter.—J. F. O.

Use of Linters in the Rayon Industry. P. B. RUSSA 5,-743,745 (May 1930); Rev. Gen. Mat. Plastiques 6,259,261 (May 1930).—Linters, formerly used only for acetate and cuprammonium rayons, is now being used for viscose also. The following is given as an unpublished process for the bleaching of linters, which has been successfully used commercially: beat 1 hour at 85 to 90 deg. C. with a 0.15 per cent soap solution to remove the fats; eliminate the waxes, etc., with 0.6 per cent caustic soda solution, coming up to a pressure of 3.5 kilos (130 deg C.) in 1 hour and holding at this pressure for 5 hours; wash by spraying in the autoclave and then for 2 hours in the beater, using 36 cubic meters of water per ton of linters; bleach in the beater at 20 deg. C. for 20 minutes, with sodium hypochlorite solution containing 0.1 per cent of available chlorine, taking care to keep the material completely submerged to prevent harmful oxidation; wash for 20 minutes using, per ton of linters, 36 cubic meters of water containing 50 liters of sodium bisulphite (the strength of the latter solution is not specified); finally wash till free from sulphite and dry to a 10 per cent moisture content. The bleaching operation is controlled by determining the copper number, for which the following method is recommended as giving consistent results: heat to boiling 100 cc. of a freshly prepared solution containing 35 g. of sodium carbonate crystals, 5 g. of sodium bicarbonate and 0.5 g. of copper sulphate crystals per liter; pour the boiling solution on 2 to 3 g. of the linters in a 250-cc. erlenmeyer flask; cover the flask with a watch glass and let stand for 3 hours in a steam bath; pour the contents of the flask through two superposed funnels, the upper one of which is provided with a perforated porcelain plate and the lower with an ashless filter; wash the boiling water containing a little sodium carbonate till all the cuprous oxide has been washed into the filter in the lower funnel. Dissolve the cuprous oxide with 10 cc. of a solution containing 25 g. of ferric sulphate and 120 g. of concentrated sulphuric acid per liter, and titrate the reduced iron with standard potassium permanganate solution.—A. P.-C.

Bleaching Liquor from Waste Soda Liquors. Zellstofffabrik Waldhof and O. Faust. Eng. pat. 317041 (Aug. 9, 1928).—Waste soda liquors such as those from mercerizing or cooking wood fiber are treated with chlorine to precipitate organic impurities and to produce a bleaching liquor. The precipitate may be fermented to produce a fodder or utilized for the manufacture of an agglutinant.—A. P.-C.

Bleaching Vegetable Fibers. Carl G. Schwalbe and Hermann Wenzl assignors to I. G. Farbenindustries Aktiengesellschaft. U. S. pat. 1,754,909, (April 15, 1930).—Cellulose raw material in the form of dry paste-board is placed on a continuously moving device and moistened and preheated, impregnated with a strong bleaching solution containing 20 to 30 g. of active chlorine per liter, immediately freed from excess of bleaching agent, and passed through a moist and warm atmosphere to effect the desired degree of bleaching rinsed with water and dried.—A. P.-C.

Bleaching Sulphite Pulp. Gosta P. Genberg. Can. pat. 297,196 (Feb. 4, 1930).—Pulp is bleached by stages; between stages it is boiled with 5 to 10 per cent of caustic soda for 4 to 10 hours, diluted in cold water and washed, treated with dilute hydrochloric acid and 3 to 5 per cent of chlorine in proportion to the weight of the fibers, and finally washed and thickened.—A. P.-C.

Treatment of Cellulose. George A. Richter assignor to Brown Co. Can. pat. 300,768, (June 3, 1930).—Cellulose fiber is treated with a permanganate solution, sodium sulphide is added after the permanganate is substantially consumed, and the fiber is treated with sulphurous acid solution.—A. P.-C.

Processing of Pulp. George A. Richter and Milton O. Schur assignors to Brown Co. Can. pat. 300,125 (May 13, 1930).—Raw pulp produced by cooking wood chips in calcium bisulphite liquor is treated with chlorine water containing 2 to 4 per cent chlorine based on the weight of the fiber. The pulp is then digested for 5 to 6 hours at a consistency of 10 per cent and at about 212 deg. F. in an alkaline solution containing 8 per cent caustic soda and 3 per cent soap based on the weight of the fiber. The pulp is washed and bleached at 125 deg. F. in bleach liquor containing 1 to 3 per cent calcium hypochlorite and about 0.75 per cent caustic soda based on the weight of the fiber. The resulting pulp has an exceedingly low resin content and is snow-white.—A. P.-C.

Bleaching Sulphate Pulp. Omar S. Egan. Can. pat 300,674 (June 3, 1930).—Sulphate pulp is partially bleached at 65 deg. to 85 deg. F. and washed; then the bleaching is completed at 65 deg. to 95 deg. F. under alkaline conditions, and the bleached pulp is washed and treated with sulphuric and sulphurous acids.—A. P.-C.

Bleaching Pulp. Gosta P. Genberg. Can. pat. 301,097 (June 17, 1930).—Pulp is bleached by adding to a mixture of pulp and bleaching agent 5 to 10 per cent of quicklime and cooking the new mixture to expel the deleterious gases.—A. P.-C.

Process for Bleaching by Oxydation, Especially of Fibrous Materials. Stephen Aczel, Budapest, Hungary. Austrian pat. 116,042 (Aug. 15, 1929).—The substance to be bleached is first subjected to an electric charge in which it is led between or around the electrodes of an ozonator. The treatment can follow with or without increase in pressure, in most or dry condition, and without increase in temperature.—J. F. O.

Process and Arrangement for the Bleaching of Fibrous Materials, Especially Paper Materials, by Electrolysis. R. Wendle, Stockholm, Sweden. Swedish pat. 68,935 (May 5, 1926).—The material being bleached is treated with the electrolyte and subjected to electrolytic action. The material being bleached in the fibrous form is continually introduced from above in a thin layer and in a swirling motion.—J. F. O.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

Federal Trade Commission Report on Cost Work In Open Price Trade Associations*

Section 1—The Improvement of Cost Accounting as a Trade-Association Activity

THE INCREASING INTEREST AND IMPORTANCE OF COST ACCOUNTING.

The application of more refined accounting principles to the determination or estimation of costs has grown apace with the increased scientific interest in the subject of accounting generally. Because of the logical and practical relation of association systems of cost accounting to prices, the outside public is concerned with this subject. The attention which general or financial accounting receives in this report is, however, rather incidental.

The movement toward the adoption of scientific methods of cost finding was given a pronounced impetus during the war. Cost inquiries were undertaken by the Federal Trade Commission with reference to coal, lumber, steel, flour, and many other industries in connection with war-time needs; and, in order to obtain comparable figures for analysis, the commission and other governmental agencies devised report forms to show classified costs in some detail and with some degree of uniformity. These report forms, irrespective of their immediate purpose, served to call the attention of a great many business concerns to the desirability of better cost information for their individual needs.

A greater factor, however, in impressing upon the business man the need of better accounting records, was the various administrative measures adopted in connection with the income tax laws, in particular, the regulations of the Internal Revenue Bureau defining the principal items of income and expense. To facilitate and simplify the making out of the required annual returns a reliable accounting system was almost a necessity. Although the accounting data required by the Internal Revenue Bureau were primarily a matter of general or commercial accounting, at some of the most critical points it developed that some approach to cost accounting was necessary, especially in connection with the valuation of inventories and the computation of depreciation. The stimulus to more adequate accounting was particularly felt because the critical point, of the amount of tax paid, depended largely on the general acceptance of the principles applied.

In various other ways, requirements of the Government have worked in the direction both of better accounting and of uniform accounts. The Interstate Commerce Commission years ago prescribed a uniform system of accounts for common carriers. Under this head are included not only railroads but carriers by water, telephone and telegraph companies, express companies, and pipe lines. Thus the work of the Interstate Commerce Commission alone involves the prescription of uniform accounting methods for a broad group of business enterprises. The national banks have long been subject, not only to exacting requirements as regards accounting methods but to periodical visitation by Federal bank examiners. Because of its interest in the financial condition of business concerns generally, the Federal Reserve Board in 1917 purposed a system of "uniform methods for the preparation of balance-sheet statements to be adopted by manufacturing and merchandising concerns." State public utility commissions not only require uniform accounts from transportation companies operating within the State, street-railway companies in particular, but also for electric light and power and gas companies, bus companies, and baggage-transfer companies. Although this is done in varying degree in the different States, practically all the larger States have commissions exercising extensive authority in accounting matters.

The Chamber of Commerce of the United States has participated in the movement toward uniform accounting through the preparation of bulletins and pamphlets.

To these influences have been added the activity of trade associations, which have occupied themselves extensively with encouraging the development of uniform systems for particular industries and the practical application of more refined accounting methods by their members. It is their participation in this work and its relation to price policy that occasions the inclusion of a chapter on this subject in the present report.

Trade associations show an increasing interest in the subject of uniform accounting, and in particular cost accounting, in their discussions at meetings, in the activities of their cost committees and in the literature in their trade papers. Only when such an activity extends to the degree of preparing a cost-accounting manual or of circulating-cost data, however, does it attain a rank warranting particular attention to this report. The extent of this rather intensified form of interest in accounting on the part of trade associations is evidenced by the fact that 75 trade association manuals of accounting have been obtained and studied in the preparation of this chapter. These range from a few pages presenting a simple outline of some of the operating accounts to the more complete systems in two or three volumes, including not only a full and detailed description and classification of all items usually met with in a particular industry, with instructions as to the correct procedure to be followed in the distribution of burden but also the forms used in entering the various items on the books.

Bureaus of business research have sometimes been established in connection with various university schools of commerce and business administration, and these have had practical contacts with

* From Letter from Chairman of Federal Trade Commission transmitting to Senate report on "Open-Price Trade Associations."

trade associations through acting as their agents in the collection and distribution of cost data and other statistical material for a number of lines of business.

It would create a wrong impression to leave the subject of the development of interest in cost accounting at this point, as if the subject were not also of interest to the business man as a guide in the practice of enlightened competition. The advantage of cost accounting as a means of aiding the business man to decide what prices he can afford to charge, either in meeting his competitors or taking business away from them, is evidently of the greatest importance. This aspect of the subject will receive attention in the following pages.

Correct accounting and uniform accounting methods are not merely a matter of private business interest. Not only has the development been fostered and stimulated by governmental needs, but the end of this phase of the development is not yet. It is to be expected that the same influences that have brought about uniformity of accounting among the railroads through governmental compulsion will tend to cause a gradual development of something like this condition as regards business corporations generally. If for no other reason, the large and increasing body of investors in corporate securities are interested in being enabled to compare reports of corporations with reference to determining the efficiency of the management and the profitableness of the results of the administration of the property they own.

The Trade Association Approach

There are general and special reasons for the interest of trade-association offices in better accounting, and especially in correct cost accounting. Trade associations exert in greater or less degree an educational influence upon their members and are especially concerned with business efficiency, or perhaps it would be more pertinent to say with commercial efficiency, since emphasis on efficiency in production suggests the professional and technological rather than the trade association. In fact, however, there are presumably elements of technological or scientific and professional interest in all trade associations, and they are conspicuous in some. Hence, if it is true that cost accounting is properly a subject of professional interest, it is not the less to be looked for among trade-association activities. In this connection, the considerable extent to which cost accounting associations, distinctly professional in character, have been formed along-side of trade associations, with reference to the special needs of particular industries, is of interest.

Passing mention may well be made of some of the more important business services of adequate cost accounting which justify trade associations undertaking educational work along this line. Cost accounting detects and localizes waste and inefficiencies. Accurate unit costs can be computed and made available for framing price lists and differentials, making bids, and planning production programs, with reference to reducing unprofitable lines and concentrating upon those more profitable. Perpetual, and nearly automatic, inventories are made possible. Data are made available from which the reports increasingly in demand for executives and heads of departments and for response to Government inquiries can be easily and promptly prepared.

Trade associations, however, feel more at home when emphasizing specifically the beneficial effects of better accounting methods upon competitive conditions. Their executives say that the worst kind of competition is ignorant competition. Hence, they wish their members to ascertain their own costs, especially the smaller members. They are also correct, as a matter of educational principle, in believing that the significance of such costs will be better understood by more or less detailed comparison with those of others in the same line of business; that is, with the experience of other association members. The most important advantages of cost accounting, however, are independent of the communication of results to others and the comparison of such results.

Many business men are disinclined to go beyond the stage of installing a standard system because they regard their accounting data as extremely confidential. Except where some secret process of manufacture is involved, this is an exceptional attitude; and is gradually being abandoned. In current association practice individual costs are sometimes disclosed, but in general the cost results obtained by an individual manufacturer will only be circulated or published in compiled form in which the identity of the individual return is not revealed. The requirement that such details be kept confidential is consistent with the practice of furnishing them to a trade-association office, or other central bureau, where they are only to be employed in compilation, and likewise to a Government office.

In any sort of numerical or statistical analysis it is necessary that comparisons be made of different things or of the same sort of things under different conditions. The validity of any conclusions drawn from such comparisons depends upon the comparability of the data. Comparability of accounting data is a matter of uniformity in methods of accounting. Uniformity of method is thus fundamental, even irrespective of the correctness of the method as such and of the accuracy of the results. A constant error may not affect appreciably a statistical comparison: hence, the importance of uniformity in accounts is not dependent on the fact that uniformity may come about as a result of the fact that there is only one right or best way to do a thing. For purposes of comparison of accounting results, uniformity may be more important than accuracy of accounting method. This point is stated in a concrete and practical way by the writers of a standard cost-accounting manual as follows:

> The greatest advantage to be derived from uniform cost methods is that of insuring a more uniform selling price. This object would be attained, even if the uniform system was not as scientific as it should be; for if errors were made through the method established, all manufacturers would at least be figuring the same way, all would be making the same mistakes, and unfair and ignorant competition would be eliminated. No one questions the old adage that competition is the life of trade, but the majority of manufacturers know also that unfair competition is the curse of trade. No one should dread fair competition, for success will then depend on his own organization. If a manufacturer can not make money in competition with other concerns when using the same methods of figuring costs, he can only conclude that his goods or his marketing, or both of them, are costing him too much. His next step, naturally, is to analyze closely the methods and conditions under which he is manufacturing and marketing his product, until he finds and corrects the inefficiencies which are handicapping him so seriously.[1]

[1] Nicholason & Rohrbach, Cost Accounting, p. 12.

(To be continued)

Bids for Government Paper

Washington, D. C., December 24, 1930.—The Government Printing Office has received the following bids for 80,000 pounds of 22½×28½ manila calendered tag board; Barton Duer and Koch Paper Co., at 7.2 cents per pound; and R. P. Andrews Paper Company, 7.15 cents.

For 5,000 sheets of 22½×28 red railroad board; Holyoke Card and Paper Company, at $32.50 per M less 3 per cent; Reese & Raase, Inc., $32.15; Old Dominion Paper Company, $33.90; R. P. Andrews Paper Company, $38.50; Barton, Duer & Koch Paper Company, Inc., $32.18; Walker-Goulard-Plehn Company $35.50; Virginia Paper Company, Inc., $36.00; Dobler & Mudge, $33.85; and Mathers-Lamm Paper Company, $33.47 and $33.37.

For 40,000 pounds best quality, 25×30 binders board; Barton, Duer & Koch Paper Company, 5.5 cents; R. P. Andrews Paper Company, 5.5 cents; and Whitaker Paper Company, 5.45 cents.

For 40,000 pounds same, No. 2 quality; Barton, Duer & Koch Paper Company, 3.45 cents; R. P. Andrews Paper Co., 3.45 cents; Whitaker Paper Co., 3.44 cents; and Virginia Paper Co., Inc., 3.3 cents.

MURRAY WOOD CLEANER

Motor driven model shown. Also available in belted types. *Above:* the Murray barker with straight and concave head. *Right:* Knot saw which replaces either head to make Duplex Combination.

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THE *Murray Duplex Combination Wood Cleaner* not only barks slabs, edgings and sawmill refuse but is equally effective on round pulpwood. The knot saw takes out "by the roots" the black knot that creates specks in a sheet.

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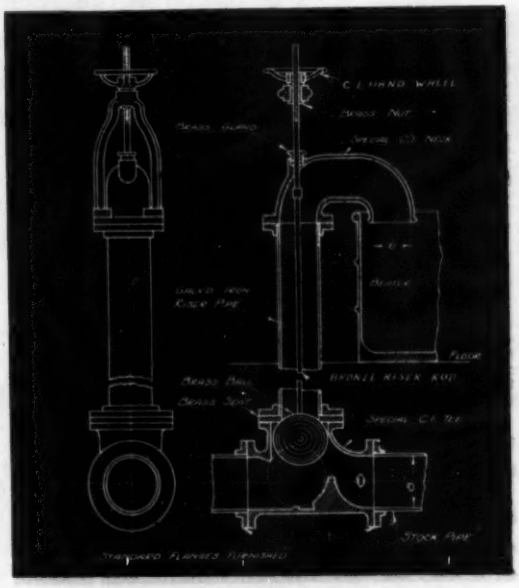

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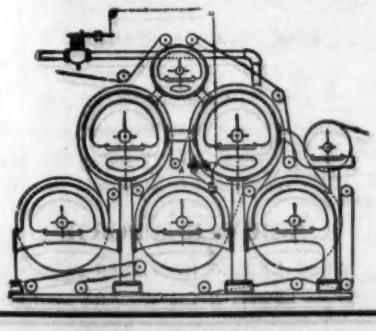

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will do everything we claim for it and more. The test costs you nothing until you are satisfied. Many mills tried one and now have every machine equipped. Write for list of users and other information.

W. F. PICKLES Buckland, Conn.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING DECEMBER 20, 1930

SUMMARY

Cigarette paper	305 cs.
Wall paper	122 bls., 4 cs.
Paper hangings	24 bls., 4 cs.
Hanging paper	1 cs.
News print	6548 rolls
Printing paper	213 bls., 83 cs.
Wrapping paper	69 bls.
Writing paper	7 cs.
Drawing paper	1 cs.
Filter paper	44 bls., 48 cs.
Colored paper	19 cs.
Baryta coated paper	3 crates, 1 cs.
Surface coated paper	41 cs.
Photo paper	8 cs.
Coated paper	39 cs.
Metal paper	73 cs.
Decalcomania paper	55 cs.
Tissue paper	3 cs.
Stencil paper	3 cs.
Envelopes	12 cs.
Oiled paper	2 cs.
Card board	80 bls.
Straw board	309 rolls
Miscellaneous paper	515 rolls, 58 bls., 41 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Schodack, Havre, 261 cs.

Standard Products Corp., Lafayette, Havre, 44 cs.

WALL PAPER

Kensington Wallpaper Co., Maryland, London, 8 bls.

Universal Car Loading Co., Europa, London, 1 cs.

Gerhard & Hey, New York, Hamburg, 3 bls.

Irving Trust Co., New York, Hamburg, 6 cs.

F. A. Binder, New York, Hamburg, 9 bls.

F. J. Emmerich, New York, Hamburg, 42 bls., 4 cs.

Globe Shipping Co., New York, Hamburg, 14 bls., 1 cs.

A. C. Dodman Jr., Inc., Mauretania, Southampton, 22 bls.

F. J. Emmerich, Baltic, Liverpool, 8 bls.

F. J. Emmerich, Minnewaska, London, 2 bls.

Hensel Bruckman & Lorbacher, Dresden, Bremen, 12 bls.

S. Stern Stiner & Co., Dresden, Bremen, 2 bls.

Bendix Paper Co., Reliance, Hamburg, 11 cs.

PAPER HANGINGS

A. C. Dodman Jr., Inc., Baltic, Liverpool, 3 bls.

W. H. S. Lloyd & Co., Minnewaska, London, 21 bls., 4 cs.

HANGING PAPER

Bush Service Corp., Lafayette, Havre, 1 cs.

NEWS PRINT

Perkins Goodwin & Co., New York, Hamburg, 201 rolls.

Stora Kopperberg Corp., Kungsholm, Gothenburg, 317 rolls.

Parsons & Whittemore, Inc., Kungsholm, Gothenburg, 100 rolls.

J. Madden, Dresden, Bremen, 648 rolls.

J. Madden, Westfalen, Bremen, 294 rolls.

Lunham & Reeve, Hallaren, Kotka, 400 rolls.

H. Reeve Angel & Co., Inc., Hallaren, Kotka, 71 rolls.

W. H. Bell, Markland, Liverpool, N. S., 4517 rolls.

PRINTING PAPER

E. Dietzgen & Co., Statendam, Rotterdam, 35 cs.

C. Steiner, Dresden, Bremen, 26 cs.

Tamm & Co., Dresden, Bremen, 9 cs.

Phoenix Shipping Co., Dresden, Bremen, 213 bls.

Martin & Bechtold, Reliance, Hamburg, 13 cs.

WRAPPING PAPER

C. Steiner, Statendam, Rotterdam, 69 bls.

WRITING PAPER

G. W. Sheldon & Co., Mauretania, Southampton, 2 cs.

Guibout Freres, Mauretania, Southampton, 3 cs.

Japan Paper Co., Lafayette, Havre, 2 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Minnewaska, London, 1 cs.

FILTER PAPER

A. Giese & Son, New York, Hamburg, 12 cs.

C. Schleicher Schull Co., New York, Hamburg, 21 cs.

A. Giese & Son, Mauretania, Southampton, 44 bls.

H. Reeve Angel & Co., Inc., Minnewaska, London, 15 cs.

FILTER PULP

A Giese & Son, New York, Hamburg, 15 bls.

COLORED PAPER

Winter Wolff & Co., Europa, Bremen, 3 cs.

National Freight F'd'g. Co., Europa, Bremen, 9 cs.

L. Langsdorf Co., Inc., New York, Hamburg, 3 cs.

S. Gilbert, Dresden, Bremen, 4 cs.

BARYTA COATED PAPER

J. H. Schroeder Banking Corp., Europa, Bremen, 3 crates, 1 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., New York, Hamburg, 1 cs.

Crawford Bros., New York, Hamburg, 19 cs.

Globe Shipping Co., New York, Hamburg, 1 cs.

Globe Shipping Co., Reliance, Hamburg, 10 cs.

PHOTO PAPER

Agfa Ansco Corp., New York, Hamburg, 3 cs.

J. J. Gavin, Mauretania, Southampton, 5 cs.

COATED PAPER

Bank of America Natl. Assn., New York, Hamburg, 19 cs.

Crawford Bros., New York, Hamburg, 9 cs.

W. A. Foster & Co., Minnewaska, London, 2 cs.

Bank of America Natl. Assn., Reliance, Hamburg, 9 cs.

METAL PAPER

K. Pauli Corp., Europa, Bremen, 6 cs.

K. Pauli Corp., New York, Hamburg, 26 cs.

Globe Shipping Co., New York, Hamburg, 41 cs.

DECALCOMANIA PAPER

Phoenix Shipping Co., Europa, Bremen, 3 cs.

Phoenix Shipping Co., New York, Hamburg, 5 cs.

C. W. Sellers, New York, Hamburg, 9 cs.

C. W. Sellers, Reliance, Hamburg, 3 cs.

B. F. Drankenfeld & Co., Baltic, Liverpool, 35 cs. (duplex).

TISSUE PAPER

F. L. Kramer & Co., Maryland, London, 2 cs.

B. F. Drakenfeld & Co., Baltic, Liverpool, 1 cs.

STENCIL PAPER

Aladdin Stencil Corp., New York, Hamburg, 3 cs.

ENVELOPES

J. Beckard, Dresden, Bremen, 12 cs.

OILED PAPER

Eugene, Ltd., Minnewaska, London, 2 cs.

CARD BOARD

Hensel Bruckman & Lorbacher, Statendam, Rotterdam, 80 bls.

STRAW BOARD

Walker Goulard Plehn Co., Statendam, Rotterdam, 309 rolls.

MISCELLANEOUS PAPER

Marine Midland Trust Co., New York, Hamburg, 30 bls., 345 rolls.

Titan Shipping Co., Statendam, Rotterdam, 2 cs.

Globe Shipping Co., Statendam, Rotterdam, 27 cs.

C. Bruning Co., Statendam, Rotterdam, 38 rolls.

Keller Dorian Paper Co., Mauretania, Southampton, 8 cs.

The Borregaard Co., Inc., Kungsholm, Gothenburg, 132 rolls.

Walker Goulard Plehn Co., Kungsholm, Gothenburg, 28 bls.

Japan Paper Co., Kungsholm, Gothenburg, 2 cs.

Tice & Lynch, American Merchant, London, 1 cs.

F. C. Strype, Conte Grande, Genoa, 1 cs.

RAGS, BAGGINGS, ETC.

A. W. Fenton, Inc., Maryland, London, 24 bls. rags.

International Trust Co., Eberstein, Antwerp, 77 bls. bagging; 66bls. rags.

Chase National Bank, Eberstein, Antwerp, 182 bls. rags.

Rockwell & Co., Eberstein, Antwerp, 171 bls. bagging; 119 bls. cotton waste.

New York Trust Co., Statendam, Rotterdam, 350 bls. cotton waste.

Banco Com'l Italiane Trust Co., Exiria, Genoa, 147 bls. bagging.

E. Mayer, Exiria, Leghorn, 123 bls. rags.

Baring Bros., & Co., Minnewaska, London, 37 bls. rags.

International Accep. Bank, Dresden, Bremen, 46 bls. bagging.

Amtorg Trading Corp., New York, Hamburg, 827 bls. rags.

E. J. Keller Co., Inc., Rotterdam, ——, 68 bls. new rags.

WOOD PULP

Castle & Overton, Inc., New York, Hamburg, 1205 bls. wood pulp, 176 tons.

Simonson Bros., Inc., New York, Hamburg, 130 bls. wood pulp, 26 tons.

Atterbury Bros., Inc., United States, Oslo, 1625 bls. mechanical pulp, 330 tons; 600 bls. sulphite, 101 tons.

Johanson Wales & Sparre, Inc., United States, Oslo, 205 bls. sulphate, 41 tons.

Johanson Wales & Sparre, Inc., Kungsholm, Gothenburg, 2000 bls. sulphate.

M. Gottesman & Co. Inc., Kungsholm, Gothenburg, 1750 bls. sulphite.

Kidder Peabody Accep. Corp., Kungsholm, Gothenburg, 127 bls. sulphate.

E. M. Sergeant & Co., Kungsholm, Gothenburg, 400 bls. sulphite; 598 bls. kraft soda pulp.

Russell McCandless, Kungsholm, Gothenburg, 300 bls. unbleached sulphite.

Simonson Bros., Inc., Dresden, Bremen, 231 bls wood pulp.

Irving Trust Co., Dresden, Bremen, 175 bls. wood pulp.

Lagerloaf Trading Co., Hallaren, Viborg, 254 bls. mechanical pulp.

WOOD PULP BOARDS

Lagerloaf Trading Co., Hallaren, Kotka, 129 bls.

WOOD FLOUR

State Chemical Co., Statendam, Rotterdam, 100 bags.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 20, 1930

J. Madden, Westfalen, Bremen, 106 rolls news print.

Bulkley Dunton & Co., Westfalen, ——, 2500 bls. wood pulp.

Castle & Overton, Inc., Westfalen, Hamburg, 3303 bls. wood pulp.

Bulkley Dunton & Co., Milos, ——, 825 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING DECEMBER 20, 1930

Perkins Goodwin & Co., Westfalen, Hamburg, 426 rolls news print.

(Continued on page 68)

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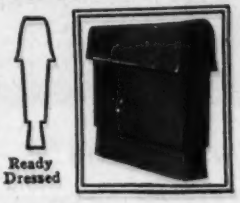

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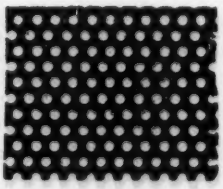
For Pulp and Paper Mills



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114 Liberty St.

Screens of All Metals

PERFORATED METALS

For use in Pulp and Paper Mills

Imports of Paper and Paper Stock

(Continued from page 66)

W. S. Stone & Co., Hallaren, Kotka, 244 rolls news print.
H. Reeve Angel & Co., Inc., Hallaren, Kotka, 61 rolls news print.
Lagerloaf Trading Co., Hallaren, Kotka, 254 bls. mechanical pulp; 2024 bls. sulphite; 636 bls. sulphate.

NEWPORT NEWS IMPORTS

WEEK ENDING DECEMBER 20, 1930

Castle & Overton, Inc., Westfalen, Hamburg, 915 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING DECEMBER 20, 1930

1st Nat'l Bank of Boston, Castilian Prince, B. Ayres. 2500 bags casein, 150,000 ks.
Baring Bros. & Co., Maryland, London, 125 bls. waste paper.
——, Maryland, London, 70 bls. rags; 66 coils old rope.
E. Butterworth & Co., Inc., Exiria, Genoa, 16 bls. splicings; 8 bls. fleshings; 20 bls. pickers.
International Purchasing Co., Exiria, Genoa, 138 coils old rope.
——, Exiria, Genoa, 35 bls. rags.
G. F. Malcolm & Co., Baltic, Liverpool, 46 cs. tissue paper.
W. A. Wood & Co., Lisbon Maru, Osaka, 32 bls. rags.
Baring Bros. & Co., Meltonian, Manchester, 579 bls. hide cuttings.
Brown Bros. & Co., Meltonian, Liverpool, 177 coils old rope.
J. Richardson & Co., Meltonian, Liverpool, 15 casks china clay.
Bulkley Dunton & Co., Harburg, ——, 125 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 20, 1930

Chemical Bank & Trust Co., Westfalen, Bremen, 67 coils old rope.
——, Westfalen, Bremen, 68 bls. rags.
International Accep. Bank, Westfalen, Hamburg, 204 bls. wood pulp.
Castle & Overton, Inc., Westfalen, Hamburg, 1188 bls. wood pulp.
Neidich Process Co., Westfalen, Hamburg, 25 cs. tissue paper.
E. J. Kellar Co., Inc., Westfalen, ——, 48 bls. rags.
——, Excellency, Oran, 35 coils old rope.
Lagerloaf Trading Co., Hallaren, Viborg, 14,736 bls. sulphite.
Atterbury Bros. Inc., Hallaren, Viborg, 175 bls. sulphate.
H. Reeve Angel & Co., Halleren, Kotka, 55 rolls news print.
J. W. Hampton, Jr., & Co., Hallaren, Kotka, 104 rolls news print.
Lagerloaf Trading Co., Hallaren, Kotka, 254 bls. mechanical pulp; 1450 bls. sulphite; 1593 bls. sulphate; 818 bls. wood pulp boards.
Kidder Peabody Accep. Corp., Lisbon Maru, Osaka, 100 bls. rags.
Hoffman Lion Mills, Lisbon Maru, Kobe, 25 bls. rags.
J. H. Faunce, Meltonian, Manchester, 150 bls. bagging.
Bulkley Dunton & Co., Hannover, ——, 550 bls. wood pulp.
E. J. Keller Co., Inc., Ninian, ——, 109 coils old rope.
E. J. Keller Co., Inc., Harburg, ——, 549 bls. wood pulp.
E. J. Keller Co., Inc., Ala, ——, 77 bls. rags.

Boston Paper Market Moderately Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 22, 1930.—A moderate amount of business has been transacted in the Boston paper market in the last week, considering the fact that the inventory season is on and conservatism is the rule. Boston paper men that have talked with mill representatives who have travelled in other sections feel that the industry in New England has stood up well compared with the rest of the country. Some of the wholesalers report a slight improvement in fine papers. There are a few more inquiries for fine paper, with some a little larger in volume. Complaints are heard in the trade that some of those who are quoting to buyers are absolutely unreasonable as far as other sellers are concerned, by the way they are cutting prices. Some expansions have been taking place, indicating courage on the part of dealers. Wrapping paper is rather quiet, but there is considerable inquiry, which is expected to develop into actual business. Specialties are moving fairly well. Some of the mills have closed for Christmas week, including particularly box board mills. A sizable quantity of manila boards has sold during the last two weeks. Values of boards remain firm, but the market as a whole is quiet. There is a general feeling of optimism, however, in regard to the market after the turn of the year.

The paper stock situation shows no improvement and the price tendency continues downward. It is said that there is a big amount of paper stock on the market, particularly mixed papers, and that Canada is to use a much increased amount of news print during 1931, a fact which will result in much more waste paper. People generally have saved paper since the World War more than previously.

Swedish Pulp and Paper Markets Quiet

WASHINGTON, D. C., December 24, 1930.—The Swedish pulp and paper markets continue quiet with only necessary orders being placed mostly for immediate delivery. Recently a few orders for chemical pulp and newsprint paper have been placed for 1931 delivery, but so far no appreciable turnover has taken place. The uncertainty of the situation in Canada is ascribed as partly responsible for the continued dullness in the news print market. Incoming orders for kraft have been insignificant and do not correspond to normal production. The same statement may be made in regard to greaseproof papers; sulphite wrappings have been in somewhat better demand, but orders for this class have also been small.

L. H. Everlien Goes With Appleton Woolen Mills

APPLETON, Wis., December 16, 1930.—L. H. Everlien has joined the sales organization of the Appleton Woolen Mills, manufacturers of woolens and paper makers felts at this place.

Mr. Everlien spent 16 years in estimating the sales on elevated conveying and power transformer machinery, and was for eight years connected with the sales department of the Mechanical Division of the U. S. Rubber Company, specializing in paper mill equipment, rubber covered rolls, etc.

Mr. Everlien's territory will be south of Chicago from the Atlantic to the Mississippi River and the few scattered mills West of the Mississippi in the southwest section of the country.

D. J. Crikelair Joins Capital Envelope Co.

LOS ANGELES, Cal., December 22, 1930.— David J. Crikelair, who has been with the Los Angeles Division of the Zellerbach Paper Company in the Mill and Sales Departments for a period of sixteen years, has resigned his position to accept a partnership with George J. McNamara of the Capital Envelope Company which has been established in Los Angeles for the past decade. Mr. Crikelair's duties in the sales department of the Los Angeles Division will be assumed by John Ganssle.

To Use Federation Dandy Roll

The Consolidated Water Power and Paper Company has been granted the privilege of using the Federation Dandy Roll by the International Brotherhood of Paper Makers, and is now producing moderately priced Union Water marked book papers.

Since the retirement of the Seaman Paper Company, sole distributors of Consolidated book papers, from the retail field on August 1 this company has established for the Consolidated mill various paper merchant agencies throughout the country on book and rotogravure papers, and will distribute the Consolidated Union Watermarked papers thru the same channels.

Western Tablet Co. Makes Good Report

KALAMAZOO, Mich., December 22, 1930.—The Western Tablet and Stationery Corporation of which the Kalamazoo Stationery Company is a unit, reports net profits for the year ending Oct. 31, after depreciation, interest, amortization and federal taxes of $748,665, equivalent after preferred dividends of $4.31 per share of 117,465 shares of common stock outstanding. This compares, with $6.01 per share earned on 116,045 of common stock outstanding during the previous year.

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New York Market Review

Office of the PAPER TRADE JOURNAL
Wednesday, December 24, 1930.

During the past week trading in the local paper market was light, due mainly to the near approach of the holidays. Practically all grades of paper, however, had enjoyed a fairly satisfactory demand during the last quarter of the year. Sales forces of the leading paper organizations are planning a strenuous campaign for business in the forthcoming year and are generally optimistic.

Efforts to stabilize the news print industry are being made and there are many rumors of proposed consolidations around. Production in the United States and Canada is being maintained at approximately 66 per cent of total weighted capacity and shipments are well up to average. Stocks at the mills are not excessive.

The position of the paper board market is practically unchanged. Demand for box board is seasonal and prices are fairly steady. The various grades of fine paper are in normal request for the time of year. Prices are unchanged, in most instances. Some improvement was noticed in the coarse paper market and wrapping paper has been moving in good volume.

Mechanical Pulp

Steadiness prevails in the ground wood market although trading has quieted down. Offerings of both domestic and imported mechanical pulp are rather scarce and quotations are firm. Inquiries for future requirements are fairly numerous and the outlook for the future is promising, in the opinion of many experienced observers.

Chemical Pulp

No radical changes were reported in the chemical pulp market. Demand for the various grades of both imported and domestic chemical pulp should improve after the turn of the year. No. 1 strong unbleached imported sulphite is now quoted at from $2.00 to $2.65 and No. 1 kraft is offered at from $1.50 to $1.75. No other price changes were reported.

Old Rope and Bagging

The old rope market was quiet during the past week. Demand for foreign and domestic old manila rope was only fair. Small mixed rope is moving into consumption at a normal pace. Prices are fairly steady. The bagging market was dull. Demand for both scrap and gunny was moderate. Prices are generally holding to formerly quoted levels.

Rags

Little interest was evinced in the domestic rag market by the paper mills and a revival of active trading is not anticipated until after the close of the inventory period. While cotton cuttings are moving in fairly satisfactory volume, roofing grades are very quiet and mixed rags are practically lifeless. The imported rag market situation is still unsatisfactory.

Waste Paper

The lower grades of paper stock are not showing much improvement. However, stocks at the board mills are not believed to be excessive, and demand should improve after the turn of the year. The better grades of waste paper are exhibiting a fairly strong undertone and prices are holding to previously quoted levels, in most instances.

Twine

While the twine market was only moderately active during the past week, demand during the closing months of the year has been satisfactory considering the general business depression. Prices have been well maintained, in most instances, despite reports of shading on extra large orders. Confidence in the future of the industry is generally expressed.

Union Bag Mill at Hudson Falls More Active

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., December 22, 1930—Improved business conditions at the plant of the Union Bag and Paper Corporation are noticed although it was stated by company officials that this was brought about because of the annual holiday rush and not because of any general increase in activities. The company has taken on a number of new workers and looks for the improvement to continue. The unemployment situation in this vicinity is not regarded as serious although a number of the major manufacturing industries are running on part time.

A large increase in manufacturing activities at the local plant is now predicted because of the fact that a reduced rate on pulp shipments is to be placed in effect late this month on the lines of the New York Central. Plans of the firm call for bringing large quantities of the product to this city during the coming year and it is understood that the new rates will be placed on the huge movement of imported pulp being brought here from Sweden. Negotiations of the paper company to obtain the lower rates have been carried on for some time and represented an effort to get more favorable terms for its operations.

The imported pulp is expected to be transported through the Port of Albany inasmuch as the rate situation has been under consideration by the Albany Port Commission for some time and the attention of the local concern has been called to the advantage of clearing its water shipments through that terminal. The new rail rate on pulp shows a reduction of four cents on each one hundred pounds, according to the schedule filed with the Public Service Commission, and this applies between New York and Hudson Falls, Fort Edward, Ballston and neighboring communities.

Vernon D. Bierman Opens Offices

Vernon D. Bierman having resigned his position as treasurer of the A. P. W. Paper Company of Albany, N. Y., has recently opened his own offices as a certified public accountant, in the Albany County Savings Bank Building, in that city.

He was with the A. P. W. Paper Company for twelve years, in the capacity of comptroller as well as treasurer, and prior to that, had considerable experience with the well-known firm of Ernst & Ernst.

Mr. Bierman is a charter member of the American Institute of Accountants, and a C. P. A. of Ohio. His practice will include tax consultations and cost work, as well as accounting and auditing.

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Dryer for Hog Fuel, Waste Wood and Bark.

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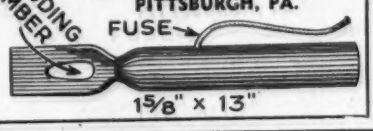

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL
Wednesday, December 24, 1930

BLANC FIXE.—Trading in the blanc fixe market was light during the past week. The contract movement was normal for the season. Prices remain unchanged. The pulp is quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is practically unchanged. Shipments against contract are moving in fairly satisfactory volume. Prices are generally holding to schedule. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—Demand for casein is only moderately active. Prices remain unchanged. Domestic standard ground is quoted at 9½ cents and finely ground at 12 cents per pound. Argentine standard ground is selling at 11 cents and finely ground at 12 cents per pound, all in bags, car lot quantities.

CASTIC SODA.—Keen competition in the caustic soda market has affected the price situation somewhat. The contract movement is seasonal. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.33 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is in a sound position. Supplies are moving into consumption in good volume. Prices remain unchanged. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Most of the business transacted in the chlorine market was along routine lines. Contract shipments are going forward at a steady pace. No further price changes have been recorded. Chlorine is quoted at $2.00 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Prices continue to fluctuate in the rosin market. Demand is moderate. The grades of gum rosin used in the paper mills are now quoted at from $5.30 to $5.45 per 280 pounds, in barrels, at yards. Wood rosin is selling at $3.80 per 280 pounds, car load lots, at southern shipping points.

SALT CAKE.—The salt cake market is exhibiting a strong undertone. Contract shipments are moving in good volume. Salt cake is quoted at from $16 to $17. For large tonnage, German salt cake is offered at from $15.50 to $16. Chrome salt cake is selling at from $15 to $16 per ton, in bulk, at works.

SODA ASH.—Weakness developed in the soda ash market during the past week, due mainly to severe competition for desirable orders and prices were easy. Contract shipments on soda ash, in car lots, at works, are as follows: in bulk, $1.15; in bags, $1.32; and in barrels, $1.55 per 100 pounds.

STARCH.—No radical changes were recorded in the starch market, despite the grain situation. Demand was fairly active and the contract movement was seasonal. Prices remain unchanged. Special paper making starch is quoted at $3.62 per 100 pounds, in bags; and at $3.89, in barrels, at works.

SULPHATE OF ALUMINA.—Conditions in the sulphate of alumina market are fairly satisfactory. The contract movement is mostly seasonal. Prices remain unchanged. Commercial grades are quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Steadiness prevails in the sulphur market. Prices are firm. Sulphur is quoted at $18 per long ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—The talc market pursues the even tenor of its way. Demand is normal for the season and prices are holding to schedule. Domestic talc is selling at from $16 to $18 per ton, in bulk; while imported talc is offered at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	6.75	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	6.75	@11.00
Book, Cased—		
S. & S. C.	5.75	@ —
M. F.	5.50	@ —
Coated and Enamel	7.00	@10.50
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.65	@ .67½
Anti-Tarnish M G only	.65	@ .70
Colored	.70	@ .90
White No. 2	.55	@ .57½
Kraft	.65	@ .70
Manila	.55	@ .57½
Kraft—		
No. 1 Domestic	5.00	@ 6.00
No. 2 Domestic	3.00	@ 3.75
Southern	3.00	@ 3.75
Imported	6.00	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Butchers	3.37½	@ —
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75
Common Bogus	1.50	@ 3.00
Screenings	2.00	@ 3.00
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs., No. 1	.09¼	@ —
No. 2	.11¼	@ —
Bleached, basis 20 lbs.	.11¼	@ —
(Delivered New York)		
News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	32.50	@35.00
Straw	40.00	@45.00
Chip	30.00	@32.00
Binders' Boards	65.00	@70.00
Standard Test Jute Liner	40.00	@42.00
Sgl. Mla. Lt. Chip.	42.50	@ —
(F. o. b. Mill)		
Wood Pulp Boards	70.00	@80.00

Mechanical Pulp
(On Dock)

No. 1 Imported—		
Moist	28.00	@32.00
Dry	30.00	@34.00
(F. o. b. Mill)		
No. 1 Domestic	28.00	@34.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.00	@ 4.25
Easy Bleaching	2.60	@ 2.80
No. 1 strong unbleached	2.00	@ 2.65
Mitscherlich unbleached	2.15	@ 2.70
No. 2 strong unbleached	1.95	@ 2.05
No. 1 Kraft	1.50	@ 1.75
No. 2 Kraft	1.40	@ 1.55
Sulphate—		
Bleached	3.40	@ 3.85
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	2.65	@ 4.75
Easy Bleaching Sulphite	2.55	@ 2.75
News Sulphite	2.35	@ 2.60
Mitscherlich	2.50	@ 3.25
Kraft (Domestic)	2.10	@ 2.75
Soda Bleached	2.75	@ 2.90

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	8.00	@ 8.50
New White, No. 2	7.00	@ 7.25
Silesias No. 1	6.50	@ 7.00
New Unbleached	8.25	@ 9.00
New Blue Prints	5.25	@ 5.50
New Soft Blacks	4.00	@ 4.50
Blue Overall	6.25	@ 6.50
Washables	4.25	@ 4.75
Fancy	4.75	@ 5.25
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	7.50	@ 8.00
O. D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.50	@ 4.00
New Mixed Blacks	3.25	@ 3.50
Old Rags		
White, No. 1— Repacked	5.25	@ 5.75
Miscellaneous	4.25	@ 4.75
White, No. 2— Repacked	3.00	@ 3.50
Miscellaneous	2.30	@ 2.50
St. Soiled, White	1.50	@ 1.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.65	@ 1.85
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.25	@ 1.30
No. 1	1.25	@ 1.30
No. 2	.90	@ 1.00
No. 3	.70	@ .80
No. 4	.65	@ .70
No. 5A	.50	@ .60

Foreign Rags
New Rags

New Dark Cuttings	2.30	@ 2.50
New Mixed Cuttings	2.25	@ 2.75
New Light Silesias	6.25	@ 6.50
Light Flannelettes	6.50	@ 7.00
Unbleached Cuttings	8.25	@ 8.75
New White Cuttings	7.50	@ 8.00
New Light Oxfords	6.00	@ 6.50
New Light Prints	4.75	@ 5.25
Old Rags		
No. 1 White Linens	7.50	@ 8.00
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 5.75
No. 2 White Cotton	4.50	@ 5.00
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.70	@ 1.80
Extra Light Prints	2.75	@ 3.00
Ord. Light Prints	2.15	@ 2.40
Med. Light Prints	1.65	@ 1.75
Dutch Blue Cottons	2.00	@ 2.10
French Blue Linens	2.65	@ 2.75
German Blue Linens	2.25	@ 2.40
German Blue Cottons	1.85	@ 1.90
Checks and Blues	1.85	@ 1.90
Lindsay Garments	1.20	@ 1.30
Dark Cottons	1.00	@ 1.10
Old Shopperies	.95	@ 1.00
New Shopperies	.95	@ 1.05
French Blues	1.90	@ 2.00

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.55	@ 1.65
Domestic	1.65	@ 1.75
Wool Tares, light	1.30	@ 1.40
Wool Tares, heavy	1.35	@ 1.40
Bright Bagging	1.30	@ 1.35
Small Mixed Rope	.90	@ 1.00
Manila Rope—		
Foreign	2.70	@ 2.85
Domestic	3.00	@ 3.25
New Burlap Cut	2.25	@ 2.50
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	2.50	@ 2.75

Old Waste Papers
(F. o. b. New York)

Shavings—		
Hard, white, No. 1	2.80	@ 2.90
Hard White, No. 2	2.30	@ 2.40
Soft, white, No. 1	2.50	@ 2.60
White envelope cuttings	2.95	@ 3.05
Flat Stock—		
Stitchless	.95	@ 1.05
Overissue Mag.	.95	@ 1.05
Solid Flat Book	.80	@ .95
Crumpled No. 1	.65	@ .75
Solid Book Ledger	1.90	@ 2.00
Ledger Stock	.80	@ .90
New B. B. Chips	.25	@ .30
Manilas—		
New Env. Cut.	2.10	@ 2.25
New Cuttings	1.50	1.65
Extra No. 1 old	1.25	@ 1.3[illegible]
Print	.50	@ .60
Bogus Wrapper	.50	@ .60
Container	.30	@ .35
Old Kraft Machine—		
Compressed bales	1.30	@ 1.40
News—		
No. 1 White News	1.70	@ 1.80
Strictly Overissue	.45	@ .50
Strictly Folded	.35	@ .40
No. 1 Mixed Paper	.20	@ .25
Common Paper	Nominal	

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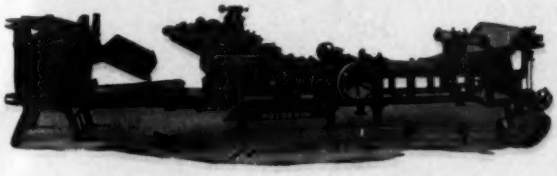

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Twines
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Cotton—			
No. 1	.22	@	.24
No. 2	.21	@	.22
No. 3	.19	@	.20
B. C., 18 basis	.32	@	.34
A. Italian, 18 basis	.38	@	.39
Finished Jute—			
Dark 18 basis	.20½	@	.21
Light 18 basis	.22½	@	—
Jute Wrappings, 3-6 Ply—			
No. 1	.14¾	@	—
No. 2	.13¾	@	—
Tube Rope—			
4-ply and larger	.10¼	@	—
Fine Tube Rope—			
4-ply	.12¾	@	—
3-ply	.13¾	@	—
2-ply	.14¾	@	—
Paper Makers Twine			
Balls	.08¾	@	—
Box Twine, 2-3 ply	.09	@	.10
Jute Rope	.11	@	.12
Amer. Hemp, 6	.29	@	.31
Java Sisal			
No. 1 Basis	.12	@	—
No. 2 Basis	.11¾	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	12	@	14
Manila Twine	.22½	@	.24½

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06½
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.30	@	.35
No. 2 Mixed	.25	@	.35
Ledger & Writings	.90	@	.95
Solid Books	.90	@	.95
Blanks	1.60	@	1.65
Kraffts	1.30	@	1.40
New Kraft Cuts	1.50	@	1.70
Manila Env. Cuts	1.65	@	1.70
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.45	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03½	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03½	@	.04
Southern Kraft No. 1	—	@	.03¼
Southern Kraft No. 2	—	@	.03½
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	32.50	@	35.00
Chip Board	30.00	@	32.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.09	@	.09½
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.08½	@	.09
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03¼
Fancy	.05	@	.05½
New Black Soft	.05	@	.05¾
New Light Seconds	.03½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	6.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.25	@	1.30
Repacked	80	@	.90

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.15
No. 2 Books, light	.90	@	.95
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.35	@	1.40
Common Paper	.25	@	.35
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.50	@	.60
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.12
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.06
No. 2 Kraft	.03¾	@	.05
(Less car-freight to Boston)			
Southern Kraft	.03¾	@	.04¼
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¼
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	32.50	@	—
Chip Board	30.00	@	—
Chip Board (Creasing)	32.50	@	—
Single Manila Lined Chip	45.00	@	—
Single White, Patent Coated News Board Bender, No. 1	60.00	@	75.00
Single White, Patent Coated News Board Bender No. 2	55.00	@	65.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	67.50	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	—	@	2.40
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	1.75
No. 1 Books, Heavy	.75	@	.80
No. 1 Books, Light	.85	@	—
Crumpled Stitchless Book Stock	—	@	.70
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Kraft No. 1	—	@	1.20
Manila	—	@	.90
No. 1 Mixed Paper	—	@	.15
Overissue News	—	@	.30
Old Newspapers	.37½	@	.40
Box Board, Chip	.50	@	.55
Corrugated Boxes	.35	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.85
Domestic	—	@	1.60
Manila Rope—			
Foreign	—	@	2.75
Domestic	—	@	3.00
Transmission Rope	—	@	2.00
Mixed Strings	—	@	.90
Jute Rope	—	@	1.25
Jute Carpet Threads	1.00	@	1.10
No. 1 Scrap Burlap	—	@	1.35
Scrap Sisal	—	@	1.50
Scrap Sisal for shredding	—	@	1.75
Wool Tares, heavy	—	@	1.40
New Burlap Cutting	1.75	@	2.00
Australian Pouches	—	@	2.50
Heavy Baling Bagging	2.00	@	2.10
No. 1 Burlap	—	@	3.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.07½	@	.08
New White No. 2.	—	@	.06
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.09¼
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¼
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	3.65	@	4.00
Roofing Stock—			
No. 1	.90	@	.95
No. 2	—	@	.75
No. 3	—	@	.65
No. 4	—	@	.60

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.70	@	.85
New No. 1 white shirt cuttings	7.50	@	8.00
Dutch Blues	—	@	1.80
Lace Curtains	4.00	@	4.25
New Checks & Blues	4.25	@	4.50
Old Fustians	1.65	@	1.65
Old Linsey Garments	.90	@	1.00

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.09¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.09½	@	.10¾
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	4.00	@	5.75
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 4 S. C. (carloads)	6.25	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—
(Delivered Toronto)			
News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	70.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock	1.20	@	—
Ledgers and Writ-			
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼